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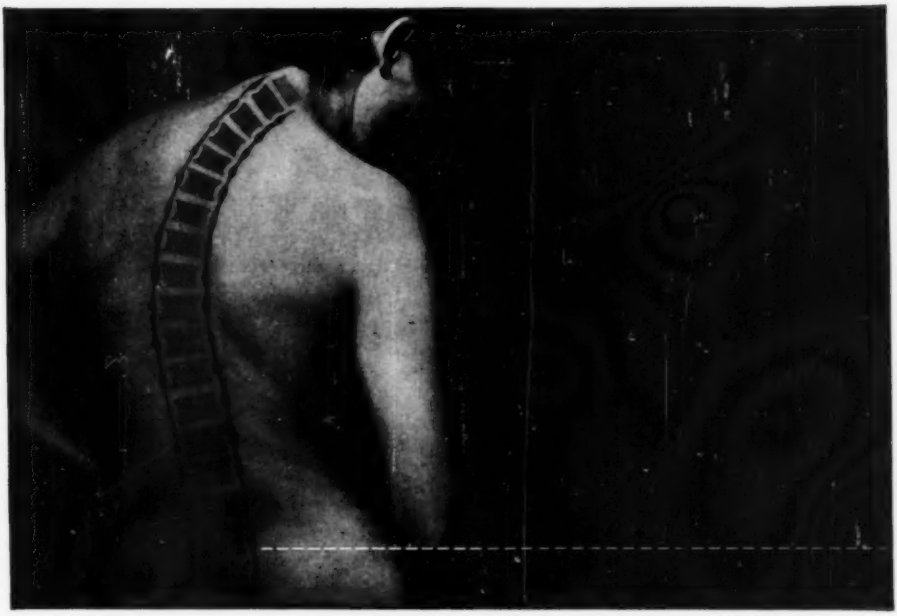

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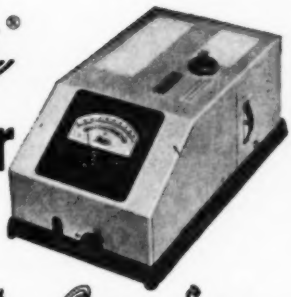

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Bibliography

1. Barach, A.L., et al.: Advances in the Treatment of Non-Tuberculous Pulmonary Disease, Bull. New York Acad. Med. *28*:353 (June) 1952.
2. Flippin, H.F.: 'Neo-Penil', a Penicillin Ester with Unusual Pharmacologic and Clinical Properties, report distributed at the Chicago Session of the American Medical Association (June) 1952.
3. Segal, M.S., et al.: Advances in the Management of the Patient with Intractable Bronchial Asthma, paper delivered before the National Tuberculosis Association and the American Trudeau Society, May 28, 1952, at Boston.
4. Segal, M.S., et al.: The Therapy of Chronic Pulmonary Emphysema, GP, in press.

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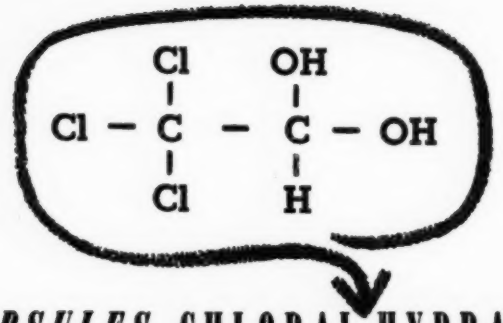

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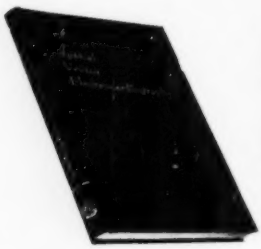

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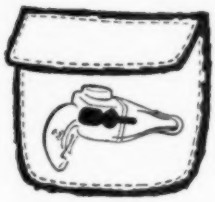

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2. Swartz, H. (1950), Norisodrine Sulphate (25 Per Cent) Dust Inhalation in Severe Asthma, Ann. Allergy, 8:488, July-August.
3. Krasno, L., Grossman, M., and Ivy, A. (1949), The Inhalation of 1-(3',4'-Dihydroxyphenyl)-2-Isopropylaminoethanol (Norisodrine Sulfate Dust), J. Allergy, 20:111, March.

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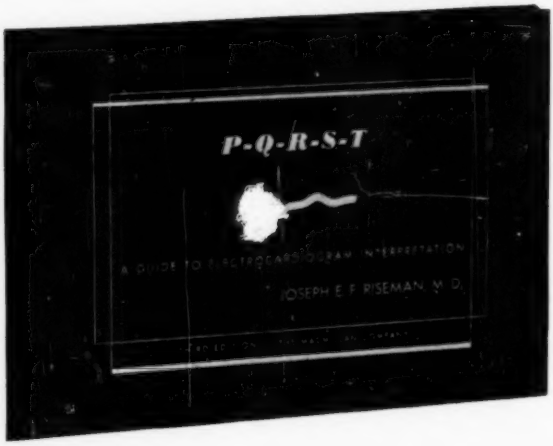

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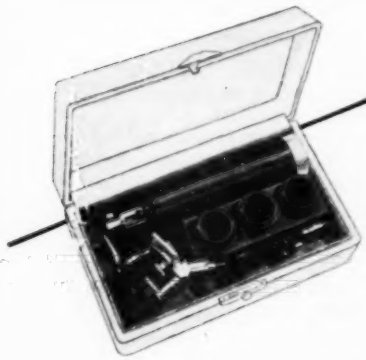

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An Operational Approach to the Medical Sciences

The application of scientific method to the problems of medical education offers a solution to some of the issues perplexing educators today.

BENJAMIN LIBET

THE CONTENT OF education in the medical and allied professions has been a perennial subject for lengthy analyses and revisions. Yet wide dissatisfaction with existing programs continues. There is need for an approach which can clarify the problems, promote the development of imaginative educational ideas, offer a framework for continual improvement and provide a basis for increasing confidence in the usefulness of such educational endeavors. Such an approach to the solution of educational problems is offered by the methods of experimental science.

An essential feature of the attitude of experimental science has been expressed in this fashion by Cameron,[3] " . . . a number of workers are now beginning to discard a whole network of 19th century scientific concepts—the ultimate truth, the scientific fact, the so-called laws of nature. In their stead, they are beginning to think of the fact as the working hypothesis of the day, which has not validity but a utility. That utility consists in its effectiveness in expanding our control over events, and it lasts only until a better working hypothesis can be found." This pragmatic, John Dewey-type philosophy can pertain not only to the natural sciences but also to social problems and even personal everyday situations.

One may recognize frankly at the outset that there are inadequacies in applying scientific method to educational problems. This difficulty applies to the treatment of human social problems in general. It is often practically impossible to provide adequate controls for all the significant variables in such experimental situations. Without excluding the usefulness of other approaches, however, one may anticipate that as in the investigation of the natural sciences, the closer one can come to making the endeavor adequately scientific, the more fruitful will be the results.

The mere exercise of a scientific attitude toward these problems will stimulate re-evaluation and receptivity to change. Although the ideas in this paper will be developed primarily in relation to education in the medical sciences, the principles involved should apply just as readily to any area of education.

The scientific approach suggests the following basic steps:

1. Formulating the problem: the desired ends of medical education must be formulated as workable ob-

Dr. Libet is associate professor of physiology at the University of California Medical Center. The author is especially indebted to Jean T. Boulware for help in revising and in contributing to the manuscript, and to Dr. E. Friedenberg for supplying examples for many of the ideas.

jectives before intelligent plans of how to achieve them can be made.

2. Hypotheses: what curricular content and teaching methods will best achieve these objectives? The same imaginative creativeness that characterizes good research should be employed in formulating working hypotheses.

3. Experiment: logical plans for putting the hypotheses to test then must be devised and carried through.

4. Results and conclusions: this step should mean more than the subjective judgment of the instructor, valuable though this may be, and certainly more than a mere comparison of grades in the course examinations. Since hypotheses are made with respect to problems which probably extend beyond the immediate course or instructor, an adequate evaluation also must extend outside these confines. Evaluation of results and drawing of conclusions are the most difficult phase of the general procedure suggested here.

Let us elaborate the first two steps —those of formulating objectives and selecting hypotheses. In this paper, methods of testing hypotheses may be implied but will not be developed as specific examples. How to solve the critical problem of evaluating results will be discussed last.

Objectives

Between the extremes of broad generalities and the acquisition of precise skills lie the objectives that are most workable for a four-year medical program. These objectives are perhaps best expressed as changes in specific abilities that will result in successful behavior in medical situations. The term ability is used here in a general sense to include acquired skills, knowledge and habits and not merely innate capacities.

Ideally, the objectives should be set out for the whole program by the entire faculty and then in great detail for each course by the faculty of that course. This is not the place to attempt an adequate formulation of the desired changes in abilities for a general program, nor am I qualified to make it singlehandedly. But a few examples suggest a level of specificity for such objectives.

These kinds of objectives may be considered:

A. Changes in the ability to marshal information:

1. Knowledge of relevant basic facts and principles.
2. Independent ability to seek out medical and other related information from the literature and to relate this to the basic facts and principles.

B. Changes in the ability to apply facts and principles to new problem situations:

1. To select or identify the most probable cause or causes in a medical situation.
2. To choose, on medical, psychological and sociological grounds, the best course of action.

C. Changes in the ability to apply scientific method to medical problems:

1. To make accurate and adequate observations.
2. To formulate the problems involved.
3. To formulate hypotheses.
4. To plan tests of hypotheses.
5. To evaluate the role of statistical treatment of evidence.
6. To formulate warranted conclusions in a medical experiment or situation.
7. To recognize implied assumptions which are needed to complete a chain of evidence or justify a position.

D. Changes in ability to deal with the psychological aspects of human function as integrated with the somatic aspects.

E. Changes in the ability to deal with the sociological and economic aspects of human illness.

F. Changes in the ability to continue self-education throughout career.

After the objectives have been clearly formulated as tentative hypotheses they should be weighted as to relative importance. Then corresponding emphasis may be given when developing hypotheses of how to achieve the objectives and when evaluating the degree of achievement. For example, one would infer from the content of present medical curricula that the acquisition of knowledge of relevant basic facts and principles is the major, if not the entire, aim of many teaching programs. Is this done by design, or is it merely the result of not having clearly formulated and proportionally weighted one's aims? If the abilities to seek information independently and to continue one's self-education are developed adequately, the relative importance of acquiring basic facts and principles would be much reduced. Furthermore, there is evidence that acquired skills and insights, such as improved ability to apply facts to new problems, are retained much better than straight factual information.[7]

OBJECTIVES THEMSELVES AS HYPOTHESES

As we begin to formulate the objectives of our medical program, it is apparent that the changes in abilities so formulated are themselves unproved hypotheses. All statements, in fact, may be regarded as hypotheses, but the obviousness of their utility varies. Where the utility is obscure it must be demonstrated, for which purpose we have scientific method.

Our formulations as to objectives are opinions of medical faculty men, the "weighted averages" of their experience. They are not objective or scientific conclusions in the usual sense. But it is interesting to note that the process by which man builds his assumptive world of experience strikingly resembles the conceptualized steps of scientific method.[4] We may take new confidence in our objectives if we regard them as the results and conclusions of years of scientifically methodical mentation on the part of our faculty members.[1, 13] If this thought is not completely assuring, at least two ways of testing and improving these formulations are at hand.

TESTING OF OBJECTIVES

One possibility lies in the "critical incident" approach to educational objectives,[6] which uses the descriptive method of science. An attempt is made to identify and define those activities which are characteristic of the work in question by observations of on-the-job activity. Descriptions are obtained of actual incidents of behavior that are considered to be particularly effective or ineffective. The behaviors that are critical in these incidents are then identified, categorized and recategorized inductively to a desired level of generality.[5,15] It may be debated how closely a list of classified behaviors so obtained would approach the ideal for objectives in medical education, but such a study should be at least an excellent guide to the formulation of objectives.

A second possibility is to obtain a profile of abilities of present professional men on the basis of the list of abilities which is being considered for adoption as the school's objectives. This would require a survey to de-

termine by examination and interview their ability to marshal information, to apply facts and principles to medical situations, etc. The existing body of professional men does not necessarily present the ideal against which future objectives should be matched, but its analysis should be a useful guide.

Since goals for medical students are not identical, objectives must be divergent or multilateral where required. A large area of relatively uniform objectives will remain, however.

A clear definition of all the objectives of a medical teaching program presents certain difficulties. For example, the elusive attributes of the "art" as contrasted with the "science" of medical practice may be difficult to define in terms of specific abilities. It seems possible that these qualities might stand out more clearly than at present in a treatment based on the critical incidents technique. In any case, one need not hesitate to formulate those objectives which are more readily definable even if one grants that some desirable objectives may not be defined easily in terms of changes of abilities.

It also should be recognized that evaluation of good and poor teaching can be done satisfactorily only if related to specific objectives. Frequently there is spontaneous agreement that a certain teacher is doing a good job. These personal opinions may be based upon a variety of criteria, many of which would not find acceptance as long-range goals of the program. For example, a teacher may be a dynamic and entertaining lecturer, but if the formulated objectives of his course include teaching the student to apply facts and principles to new situations and he emphasizes almost exclusively the development of factual information, it might be concluded that he is less than a good teacher after all. Without a clearly realized objective, any good teaching that does occur is likely to be more spotty and fortuitous than it need be.

Hypotheses

How can the objectives be achieved? The formulation of proper objectives is a major problem, worthy of a long investigation, but one should not wait to adopt tentative goals.

For the purposes of discussion, let us adopt as our arbitrary objectives the lists of changes in specific abilities listed earlier. One now proceeds to develop working hypotheses with respect to teaching content and methods that will be effective in achieving the objectives, and then sets up experimental trials. Let us consider some problem areas and the general nature of some hypotheses that might be derived from them.

Assume that a comparison of the weighted objectives with the present teaching program shows that factual learning should receive less emphasis and the ability to apply facts more emphasis. It is possible to hypothesize that this shift of emphasis could be achieved by the intensive study of a few biological or medical problems within the framework of a less detailed presentation of facts and principles.

One might illustrate further what is meant by this weighting procedure by assuming a relative weight of 25 per cent for the change in ability to marshal information and a weight of 45 per cent for the change in ability to apply facts and principles to new problem situations. This does not mean that the students would be guarded against exposure to many facts that they probably would not remember, nor does it mean that they would be expected to remember, for

examination purposes, 25 per cent of the facts presented in the course. The actual figure for the latter might be more or less than this and depends upon other considerations.

It does mean that, in evaluating the achievement of the student, the acquisition of factual information would be weighted only 25 per cent of the *total changes in ability* under test, and that, in general, of the *total effort* put forth by the student and teacher, roughly 25 per cent should be devoted to straight information.

Since actual medical situations usually are complex and involve wide interrelations of facts and principles, a hypothesis might be proposed that to develop the ability to apply facts and principles to new situations the program should be organized around bodily systems and functions rather than around separate disciplines; that is, interdepartmentally rather than departmentally. Alternatively, interdepartmentally arranged courses or seminars in interpretation and integration might follow the separate basic courses, shortened from their original length. Faculty may benefit as much as students from these new contacts, understandings and mutual training which such arrangements would necessitate.

TEACHING METHODS

In considering what teaching method is best for achieving the objective,[16] one may hypothesize that adequate comprehension of facts and principles and skill in applying them to new problem situations would develop better in a discussion group than in a formal lecture. For an adequate test of this type of hypothesis, more energy and skill would have to be put into discussion and laboratory groups than is general at the present time.

The function of lectures and their relation to textbooks, discussion and laboratory groups must be considered. Straight formal coverage of factual subject matter, which is already available in reasonably good textbooks, may be wastef f the time and effort required for the achievement of other objectives. Not infrequently lectures merely serve the function of delineating the material that may be included in the examinations. Such material logically should be determined on the basis of the course objectives, not the localisms of the lecturer. One may hypothesize, for example, that the lecture method would aid the student to increase his ability to marshal information and to apply facts and principles to new problem situations through the action of such variables as presentation of material from new points of view, general integration of the run of facts and ideas to which the student is being exposed, elaboration of certain problems or topics and inspiration of the student by the lecturer, especially where specialists with lecturing ability are available as regular or guest speakers.

How can one promote the learning of scientific method? Whatever of scientific method and attitude is learned in most programs at present is acquired rather casually from the instructor's presentation of experimental results. This teaching by example, while all to the good, does not by itself appear to provide in most students a firm basis for scientific judgment and ability. One may hypothesize that a more deliberately planned approach is more productive. This does not necessarily mean a dry, formal presentation of scientific method in a separate course. Rather, a series of exercises can be devised in one or more subject areas which elucidate the structure and application of experimental scientific method

and develop the scientific skills and abilities outlined in the objectives. Such exercises may be built around experimental situations in the subject matter at hand and should be focused deliberately on the scientific concept or skill involved.

Most of the present laboratory programs at best develop only one or two aspects of scientific method; namely, observation and technique. Often they consist merely of cookbook attempts of the students to reproduce the results given in the book. The student may be led into the rather anti-scientific attitude of disregarding his own observations if they do not agree with the authority's.

If continuing self-education is important to the modern professional man, the teaching program should be geared deliberately in its content and methods to encourage this insofar as compatible with other objectives. How can one encourage it? What style of lecture, discussion or laboratory section would be best? What sort of examination and grading system would encourage or discourage it most? Is it likely that encyclopedic learning encourages the development of this ability? The need for continued education will become evident to the student in specific situations involving patients or in reading medical literature. With this in mind one may hypothesize that at least some of the learning program should be oriented around the solution or the approach to solution of rather specific problem situations. Attempts have been made to implement such a hypothesis.[7, 8, 12]

EXAMINATIONS AND GRADING

Preliminary consideration must be given to proposals for hypotheses of how examinations and grading procedures may best achieve the objectives. Grading procedures are themselves part of the educational method and must be devised and evaluated in terms of their contribution to or detraction from the achievement of overall objectives. Two questions may be asked: (1) Do the grading indices used in the school actually evaluate at short range the student's achievement of overall objectives? (2) Do the grading procedures used have an effect on student behavior, morale or study habits that promotes or hinders the achievement of the objectives?

Presumably the grading of the student, to the extent that this is necessary and desirable at all, should be done on the basis of evidence of achievement of overall objectives. On this basis the grading problem is still a difficult one, but one for which we may develop more or less suitable solutions with the aid of ideas and techniques already developed by examiners.[11] The problem of the validity of the examination—how well it measures what it purports to measure—is an important part of any overall evaluation. Validity, of course, must not be confused with the problem of the reliability of the examination—the consistency with which it measures whatever it does measure —which need not be related to objectives.

Is it likely that achievement of general objectives will be evaluated properly from grades on weekly quizzes? Frequent exercises and quizzes that are not counted toward the student's final achievement grade must be distinguished from those that are. Any quiz is valuable insofar as it stimulates learning. The more exercises, probably the better the result, but these may be marked and discussed without being "counted." It seems reasonable that achievement

of overall objectives of a course can be tested more adequately at the end of the course than during it. One may hypothesize, then, that long comprehensive examinations are more valid achievement tests than are short frequent quizzes interspersed throughout the course.

One also may make the hypothesis that changes in specific abilities may be measured better by examinations not confined to the material of single courses. Such examinations probably would require an interdepartmental faculty committee (a device now frequently used to evaluate candidates for higher degrees) or an entirely separate board of examiners.

Now let us consider the second question in the grading problem. The frequency and type of grading procedures are important in determining the study habits, content and attitude of learning, degree of independent thought and initiative and general morale of the student. The student's judgment of what is important in a course is largely influenced by the teacher's selection of material for examinations. Consider his reaction to examinations that stress factual memorization and picayunish details as compared with those that emphasize interrelationships, integration and skill in applying facts to new situations.

The use of frequent grading procedures during a course to force the student to do work actually may conflict with the achievement of some of the objectives, such as ability for self-education, because of their effect on his study habits and learning attitudes. Is there evidence that frequent grading is needed to stimulate students to work, provided that the general attitude of the school toward the students is to treat them as adults? Instead of keeping them on their toes, frequent grading may keep students on their knees. One may hypothesize that annual grading by examination may be a sufficient work stimulus to the student, and then compare achievement under such a system with that under others. With the establishing of annual comprehensive examinations at the University of Chicago there was no evidence of decreased student work and drive during the year. In fact, the students appeared to work even harder than before.[14] A test of the effect of reduced frequency of grading pressures in a course would have to be part of a general program of increased student freedom and independence for all courses at that level. This would be necessary especially in a professional school where the severe competition among various courses for the students' time results in decreased effort where immediate pressure is least.

It seems likely that the closer the coupling of the grading process with the learning process, the more the student's attention is focused on learning for grades rather than on learning for useful comprehension and self-satisfaction. Is the role of the instructor as grader and credit-determiner compatible with his teaching role? The teaching role includes encouraging critical evaluation of the material and its source and facilitating the development of comprehension and the expression and fulfillment of curiosity, even though the student may have to display his ignorance or challenge the thought processes of his instructor. By virtue of his grading power, the teacher holds a real authoritarian control over the student, and student fear of this power is particularly noticeable in medical and other professional schools.

I have heard a psychiatrist express the opinion that there may be a psychological rebellion against such intimidation associated with unconscious antagonism toward continued self-education. Some students when speaking frankly tell you how they look back upon their professional school education, especially the first few years, as a sort of nightmare of grading pressures, informational cramming, and cutthroat competition; how they would often just as soon forget the whole thing, subject matter and all. Another result of such pressures may be that the student comes to feel he is entitled to have someone else (patients, subordinates) pay for what he had to go through.

In view of these considerations, one may hypothesize that a grading agency external to the teaching faculty, or at least to the immediate instructors involved in a course, would better achieve the general objectives of the teaching program. It seems that such a board would be able to work more freely on the problem of evaluation and grading with respect to the overall objectives than the individual instructor. The instructor, however, must determine the objectives of his course and be satisfied that the examination devised is a fair test of achievement. An external board would relieve the teacher-student relationship of the grading problem and all that goes with it. The board might develop and carry on the work of evaluation of long-range achievement after formal school and would make available to the rest of the faculty the expert services and advice of professional examiners.

Evaluation

The important concluding step in the procedure designed to answer the question, "How can the objectives be achieved?", is an evaluation of the degree to which the working hypotheses adopted as tentative answers have been confirmed. A certain amount of this evaluating can be done with the examinations given in the course, particularly if they are designed for this purpose. But the objectives of the program reach out to abilities which are manifested at times and in ways which are outside the immediate reach of a given course or of the immediate school program. It would be desirable, therefore, to have other agencies and methods capable of more adequate evaluation.

This function requires something more than the usual curriculum review committee which carries out evaluation by reviewing course syllabi and attending some of the course lectures. Adequate evaluation involves studying the actual changes in abilities of the students which result under one system as compared with another.

Long-range evaluation involves the difficult task of creating suitable procedures for measuring abilities and changes in them.[7] These procedures may have to include not only appropriate written examinations but also personal interviews, follow-ups of the student's later work and recording of his responses in problem situations. The "critical incident" technique already mentioned may be highly pertinent here as a method of obtaining criteria for successful behavior in professional life and for subsequent evaluation of behavior of students who form experimental groups.

Even if the school as a whole does not proceed along the general lines suggested in this paper, a great deal of useful work can be done with a single course or department. Even if an adequate evaluative study is not

instituted, the general attitude of re-examination of programs in terms of defined objectives and of experimenting with new solutions would be beneficial. Such work should be a primary concern of every teacher of science.

Activities suggested here are not substitutes for teacher quality or student quality.[2] But they may help set a framework within which teacher and student can function more successfully.

Students should, at the outset, be given a clear statement and explanation of the objectives in terms of altered abilities expected and of the general learning approach and evaluative techniques to be used. Their morale probably would be bolstered greatly by knowing that they were part of an intelligently planned enterprise.[10]

Experimentation in professional education would be facilitated if state and national board examinations could be brought into the program and made more flexible. At the least, the boards should be encouraged to develop a program of evaluation designed to find out if their examinations are adequately testing the abilities that they would like to see in the professional man. Too often these examinations tend to be a confederation of good, trivial and "tough" questions without clear purpose.

We may hope that the teaching of science can become as scientifically oriented, creative and enjoyable as is scientific research in the natural sciences.

REFERENCES

1. Allen, R. B. "Medical Education and the Changing Order." Commonwealth Fund, New York, 1946.
2. Barzun, J. "Teacher in America." Little, Brown and Company, Boston, 1945.
3. Cameron, D. E. "The Current Transition in the Conception of Science." *Science*, Vol. 107,553-558, May 28, 1948.
4. Cantril, H.; Ames, A., Jr.; Hastorf, A. H.; and Ittelson, W. H. "Psychology and Scientific Research. I. The Nature of Scientific Inquiry." *Science*, Vol. 110, 461-464, November 4, 1949.
5. Flanagan, J. C., et al. "Critical Requirements for Research Personnel; a Study of Observed Behaviors of Personnel in Research Laboratories." American Institute for Research, Pittsburgh, March 1949.
6. Flanagan, J. C. "The Critical Requirements Approach to Educational Objectives." *Sch. & Soc.* Vol. 71:321-324, May 27, 1950.
7. Gerard, R. W. "An Adventure in Education." *J. Higher Educ.*, Vol. 1:193-197, 1930; "An Experiment in Education." *J. Chem. Educ.*, Vol. 8:1144-1152, 1931; "Study of Educational Purposes." *J. Higher Educ.*, Vol. 19:21-32, January 1948.
8. Kalven, H., Jr. "Law School Training in Research and Exposition." *J. Legal Educ.*, Vol. 1:107-123, 1948.
9. Luykx, H. M. C. "Teaching Statistical Methods in Medicine." *J. Assn. Am. Med. Coll.*, Vol. 24:208-213, July 1949.
10. Meredith, G. P. "The Art of Lecturing." *Brit. M. J.*, Vol. 2:475-477, August 26, 1950.
11. Richardson, M. W.; Russell, J. T.; Stalnaker, J. M.; Thurstone, L. L. "Manual of Examination Methods." University of Chicago, 1933.
12. Steggerda, F. R., and Gray, S. W. "The Optional Experiment; a Means Used at the University of Illinois for Revitalizing Laboratory Routine." *J. Higher Educ.*, Vol. 11:70-73, 1940.
13. Tresidder, D. B.: "The Aims and Purposes of Medical Education." *J. Assn. Am. Med. Coll.*, Vol. 23:8-17, 1948.
14. University of Chicago faculty. "The Idea and Practice of General Education; an Account of the College of the University of Chicago." University of Chicago Press, 1950.
15. Wagner, R. J. "A Study of the Critical Requirements for Dentists." *University of Pittsburgh Bull.* Vol. 46, No. 10, June 1950.
16. *British Medical Journal*, Aug. 26, 1950. (Educational Issue)

The Community Nursery and Medical Education

Use of a community nursery school in medical education gives students valuable experience in observation and care of well children.

JULIUS B. RICHMOND and EVELYN EDDY

THE CONTRIBUTIONS which a well-trained, well-directed staff of a nursery school may make to the development of the preschool child were presented recently in an excellent article by Biber.[1] The opportunities in this setting to provide medical students with a broader understanding of child development are many and have been reviewed in another paper.[2]

Briefly, the nursery school may be employed for "laboratory" observations of the preschool child who is presumably well as a parallel to the clinic and hospital in which the central focus is upon the sick child. Opportunities for the student to observe at first hand all the experiences and care of a young child provide him with greater insights into parent-child relationships. As a consequence, he should develop a greater capacity to counsel with parents and to carry out well child supervision more effectively. It is our purpose to record here some of our experiences which may be found useful in other pediatric teaching programs.

The use of a nursery school in medical education is not new, although it has been employed by relatively few medical schools. Generally, those employed have been university-conducted schools involving considerable budgetary support by the university. Our teaching experiences in a *community* nursery school have been profitable to nursery school and medical school alike without significant expenditure by the university. Most medical schools are situated in areas where some type of community nursery school is available. Cooperative relationships usually can be established and teaching arrangements made without interfering with, and in most instances, enhancing the primary function of the school. Thus, it is not necessary to await the considerable budgetary support needed to establish a university nursery school. In many instances, the university-conducted nursery school engaged in research necessarily must exclude medical students from any active participation in the daily program.

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Our nursery school is conducted as a nonsectarian community service by the board of trustees of Chase House, an Episcopal social agency in Chicago. The geographic setting of the school is fortunate. It is within walking distance of the medical school and serves a population of varied ethnic, racial, religious, social, economic and occupational groups. Thus, the school is a working laboratory in human relations. The many cultural backgrounds for child rearing practices provide students with a wholesome opportunity to understand and respect differences in these practices.

School Health Program

The central focus of the cooperative program is the development of an adequate health program for the school. Toward this end, a resident in pediatrics, under the supervision of a senior member of the teaching staff, serves as the staff physician for t e school. Prior to admission to th school, and in addition to evaluation by the nursery school director, children are examined by the resident and reviewed by the senior physician. Recommendations for immunization, dental care, nutrition and other remedial measures often are made at this time. Since the school provides no therapeutic services, families who do not have a family physician are encouraged to seek one for care of the child. Growth and developmental records are initiated and maintained for the duration of the child's stay in the school. Parents are interviewed and the emotional development of the child is discussed with the objective of providing a school program to meet the needs of each child most effectively.

To facilitate an understanding of how the nursery school may best complement the home situation, the services of a social worker have been added by the assistance of the United Charities of Chicago. More complete interviews with parents and occasional visits to the home provide a better evaluation of the relationships within the family as well as a counselling service.

The medical students, by assignments to the nursery school in small groups of three or four for a full day, are provided an opportunity to observe the functioning of the resident as physician to the school and to participate in physical and developmental examinations. The interviews are discussed with them and the significance of parent-child problems highlighted. In addition, the nursery school staff, social worker, attending physician, resident and medical student discuss a single child in a combined conference of one to two hours' duration. At this point, an opportunity is afforded to consider the background of the child, his present status and behavior, the role of the nursery school in its guidance to the child and to the family, and the relationships of the family to the community.

Reactions of students to the child's behavior often provide valuable opportunities to discuss the feelings of doctors toward their patients and the potential impact of these feelings in the interpersonal relationships of clinical practice. Problems of "discipline," aggression, anorexia, temper tantrums and "what is normal behavior" are some of the most frequently considered subjects. The role of culture, social background and parental attitudes in determining personality development often can be discussed.

During the major portion of the day, students participate in the program of the nursery school with an

opportunity, under the guidance of nursery school teachers, to experience the problems of providing daily care and constructive group activity for a group of preschool children. Understanding of parental problems becomes deeper. One of the best evidences that these students have developed some sensitivity to the problems of daily care is the often heard statement at the end of the day: "I could never be a nursery school teacher; it's too difficult."

The students are given an explanation of the organization of the nursery school. Thus, the nature of a voluntary organization is explained. The relationship of the organization to other agencies such as the city-wide welfare council can be presented in practical terms.

Objectives

For brevity, some of the objectives achieved for students in this cooperative program may be summarized as a better understanding of:

1. The early development of the child with an opportunity to observe the genesis of personality.
2. The family and the physician's role in counselling with the family on child rearing practices.
3. How physicians may be aided by a nursery school to assist families in child rearing.
4. Community organization and the social agencies in the community.
5. The problems of teachers and parents in daily child care.
6. A health program for a nursery school and for preschool children generally.

In our experience, the positive contributions of medical supervision have been most welcome and appreciated by the nursery school director and teachers. Their attitude has been one of sharing their knowledge and experiences while continuing their growth from the interdisciplinary associations current at the school.

REFERENCES

1. Biber, Barbara. How Can a Nursery School Be Expected to Benefit a Child. *J. Pediat.* 34:112, 1949.

2. Poncher, H. G., and Richmond, J. B. Nursery School in Medical Education. *Bull. Nat. Assn. Nursery Education* 4:4, 1948.

A Plan for the

Instruction of Medical Students in Preventive Medicine and Public Health

ALAN M. CHESNEY

THE FACULTY OF the Johns Hopkins University School of Medicine was confronted in the spring of 1951 with a problem which many other medical schools are called upon to face. This problem was: what should be done about the instruction in preventive medicine and public health of students in the school of medicine who were candidates for the M.D. degree? It seemed to the author that the conclusions ultimately arrived at by the faculty might be of interest to other medical faculties.

The problem arose from the fact that Dr. Perrin H. Long, who had held the post of professor of preventive medicine and director of the department of preventive medicine in the school since 1940, resigned to accept a position in another institution.

The department of preventive medicine had been established in 1940 as a separate department in the school on the basis of a term grant from the Rockefeller Foundation and was not endowed. Therefore, the school was under no obligation to maintain such a department, and was in a position to re-examine the entire question of the relationship of preventive medicine to the instructional program of the school. It proceeded to do this through the time-honored custom of appointing a committee.

The committee was charged to consider the situation arising from the fact that Dr. Long had resigned as head of the department, and this broad directive gave ample scope for deliberations. After consulting with a number of persons who had had experience in the field, the committee submitted a report which was unanimously approved by the advisory board of the medical faculty. The plan proposed by the committee was put into effect in October 1952, with the opening of the academic year.

It should be made clear at the outset that Johns Hopkins is in a special position in reference to this particular problem. The school of hygiene and public health is situated directly across the street from the medical school. This contiguity makes

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possible the utilization of the resources of that school in the instruction of medical students. Indeed, members of the faculty of that school have assisted in the conduct of some of the required courses given in the department of preventive medicine since its inception.

The problem presented to the committee, therefore, was distinctly different from that the committee would have faced had there been no school of hygiene and public health in the environment, and was perhaps less difficult of solution for that very reason. In any event, it seems desirable to state that the committee's solution of the problem is certainly not being presented as one which is applicable to all medical schools. It would appear to be applicable, however, to those universities which have a medical school and a school of public health in close association with one another.

Although much has been written about the proper place of "preventive medicine" in the curriculum for the M.D. degree, there is no universal agreement on the meaning or content of the term. To some it has a wide range including much or all that would seem to fall within the domain of "public health"; to others it has a narrower meaning. Certainly the terms "preventive medicine" and "public health" are not synonymous, else why should we have a specialty certifying board called the American Board of Preventive Medicine *and* Public Health? (Italics mine.)

Instruction to Students

Leaving aside for the moment the definition of these terms or any attempt to set their boundaries, the fundamental thing with which we are here concerned is the matter of the prevention of illness in human beings and how best to provide instruction in that area for medical students. It will be well to quote from the report of the committee:

"A little reflection will convince anyone familiar with the subject that the prevention of illness is not a separate scientific discipline in the sense that anatomy, physiology and other subjects of the medical curriculum are. It may be thought of as an activity which falls primarily within the general realm of medicine, although other fields of human endeavor such as engineering are represented in the activity and other persons beside physicians are engaged in carrying it on. In actual practice it is a responsibility and an activity of practicing physicians on the one hand, and of the community on the other. If this premise be granted, it follows that the medical students should be exposed to instruction in both of these aspects of prevention.

"It is proposed in this report to limit the term *preventive medicine* to that phase of the prevention of illness which is mainly the responsibility of practicing physicians, and to use the term *public health* for that phase which is mainly the responsibility of the community.

"Since by the above definition it is the practicing physician who has the responsibility for practicing preventive medicine in connection with the individuals who come under his care, it follows logically that the instruction of the medical students in preventive medicine should be carried out by members of the clinical departments.

"On the same basis of reasoning, the instruction of medical students in public health as defined above should be regarded as properly a function of those who are engaged in the study of the basic disciplines which un-

derlie public health, and in the practice of public health itself. In the Hopkins medical environment, this means the members of the faculty of the school of hygiene and public health.

"If the foregoing conclusions be accepted, namely (a) that the instruction of medical students in preventive medicine is properly the function of the clinical departments of the school of medicine, and (b) that the instruction of medical students in public health can best be carried out by some of the departments of the school of hygiene and public health, then it would appear that there would no longer be any need for the maintenance of a separate department of preventive medicine in the school of medicine, *provided* the medical faculty accepts the two conclusions stated above and *provided also* the faculty of the school of hygiene and public health concurs in the second conclusion and is willing to accept the responsibility inherent in it.

"Assuming for the moment that the medical faculty agrees that the instruction in preventive medicine as defined in this memorandum should be regarded as the responsibility of the clinical departments, should it be left to each department to discharge its responsibility individually, or should there be some organized machinery set up to arrange for a cooperative endeavor on the part of these departments?

"The committee holds that it is desirable to set up some organized machinery to facilitate cooperation between the departments involved; namely, gynecology, medicine, obstetrics, ophthalmology, pediatrics, psychiatry, radiology and surgery, rather than leave it to those same departments to discharge their individual responsibilities in this area independently of one another. The committee believes that the most satisfactory machinery for this purpose would be an interdepartmental committee composed of representatives from all of the departments mentioned above with, in addition, representation from the school of hygiene and public health and from the hospital. The function of such a committee would conceivably be to survey the extent to which the clinical departments are now carrying on instruction in the preventive aspects of their particular fields, to determine if there is overlapping or duplication which can be eliminated, and to make suggestions or recommendations as to what improvements if any might be effected, either through the better use of existing facilities and personnel or through the development of additional resources.

"If the medical faculty agrees that the instruction of medical students in public health is properly the business of people who are working in that field, then the faculty should request the faculty of the school of hygiene and public health to explore the possibility of its undertaking the primary responsibility for the instruction of medical students in that subject.

"*Public health* has been defined above as that phase of the prevention of illness which is the responsibility of the community. The committee is of the opinion, however, that nowadays public health cannot be thought of as dealing only with matters of prevention. Through the force of circumstances over which public health officials themselves have perhaps had little or no control, communities have undertaken responsibilities for the care of the sick which they elect to discharge through those

same public health officials. Public health has, therefore, in actual practice come to include the treatment of large groups of the population as well as the prevention of illness in the entire community. In the broader sense, therefore, it can be thought of as the relation of medicine to the public which in the end is society itself.

"The committee holds, therefore, that the instruction of medical students in public health should reflect this fact that the activities of the community in relation to health now go beyond the prevention of illness alone, admirable as that effort is, and it would like to see such instruction expanded to include not only the conventional (preventive) aspects of public health, but also such subject matter as community provision for the care of the indigent and for chronic illness, the cost of medical care and the organized efforts to meet that cost, the relation of government to medicine, in a word the relation of medicine to our entire society. The committee would call attention to the fact that the department of the history of medicine doubtless would be in a position to contribute to the expansion of opportunities for instruction in this field. The social science departments of the university might also be in a position to contribute . . .

"While the committee is convinced that the policy of delegating the responsibility for the instruction of medical students in preventive medicine to the clinical departments is logical and sound, nevertheless one thing is clear and that is that the conditions under which the clinical teachers now carry on their work, or for that matter under which any professor of preventive medicine would have to work in this environment, are by no means ideal for the teaching of preventive medicine or, indeed, for the teaching of diagnostic and therapeutic medicine, if one is permitted to make such distinctions. It has been repeatedly brought out in the deliberations of the committee that instruction in preventive medicine is best carried out in relation to patients; but our clinical departments do not, with the possible exception of pediatrics and obstetrics, have any well human beings for whose total care they are responsible; that is, before they fall sick, when preventive measures can be applied, after they fall sick, and during the period of convalescence. This lack of a body of patients for whose total care the clinical departments might be responsible constitutes a real handicap to the teaching program of the school. Our students do not now have sufficient opportunity to observe the early symptoms and signs of illness, a first acquaintance with which is so important to them as future practitioners, nor do they have an opportunity to see what happens to their patients after they are discharged from the hospital.

"The committee is convinced that if this lack could be supplied by having the Hopkins medical institutions assume the responsibility for the total care of a conveniently located group of families, the clinical departments would then have the patient material with which to conduct more effective instruction not only in the prevention of illness but also in its recognition and treatment. Moreover the establishment of such an activity on a firm financial basis that would ensure its continuity of operation, would add to this environment a research facility of great potential value which could be made available to the faculties of both schools."

Specific Recommendations

The report ended with the following specific recommendations by the committee:

1. That in this environment the term *preventive medicine* be understood to mean that phase of the prevention of illness which is the responsibility of the practicing physician, and that the term *public health* be understood to mean the community efforts in the prevention and control of disease.

2. That instruction in preventive medicine be assigned to the clinical departments of the school as one of their principal responsibilities, and that an interdepartmental committee with composition as suggested above, be established to facilitate such instruction.

3. That public health be a required subject of instruction for all candidates for the M.D. degree and that the faculty of the school of hygiene and public health be requested to explore the possibility of its assuming the primary responsibility for the instruction of medical students in that field, the cost to be borne by the school of medicine.

4. That if the faculty of the school of hygiene and public health is willing to accept the responsibility for the instruction of medical students in public health, that responsibility be transferred to that faculty and a recommendation be presented to the board of trustees of the university that the existing department of preventive medicine in the school of medicine be abolished effective June 30, 1952.

5. The development of a program that has as its objectives the improvement of facilities for teaching and research in the prevention, diagnosis and treatment of disease which shall include:

(a.) The provision of a selected group of individuals for whom total medical care is provided,

(b.) Reorganization of the outpatient services to meet the needs of the three medical institutions,

(c.) Provision of facilities for convalescent care and rehabilitation.

New Program

The report of the committee was unanimously approved by the advisory board of the medical faculty, and the advisory board of the school of hygiene and public health agreed to accept the responsibility for the instruction of students in the school of medicine beginning with the academic year 1952-53. In order to discharge this responsibility, it has established a committee of its own with representatives from the departments concerned.

The interdepartmental committee of the school of medicine has been appointed, and the professor of pediatrics will serve as its chairman. It is planned to have joint meetings of both committees from time to time to facilitate the exchange of information and prevent duplication of effort.

The question naturally arises: will this program actually work out in practice? Admittedly, it is an experiment. Will the clinical departments discharge their obligation in a satisfactory fashion?

It is impossible to answer that question definitely in advance of the trial. As pointed out by the committee, the clinical departments will be handicapped to some extent because at least some of them do not have the type of clinical material which affords the best opportunity for instruction in the preventive aspects

of their fields. Leaving aside the question of whether the proper kind of patient material is available in the Hopkins environment to enable the clinical departments to do this particular job in a satisfactory fashion, there are those who say that clinical teachers as a group are so absorbed in the diagnosis and treatment of the individual patient that they cannot or will not pay any attention to the prevention of illness, hence an outside stimulating influence in the form of a department of preventive medicine is necessary in a medical school to remind the clinical teachers that there is such a thing as prevention, not only in theory but also in practice, and to persuade them to include it in their case discussions.

Whether this view is correct or whether it constitutes base calumny against the clinicians, it can scarcely have universal application. In any case, the concept of one department playing the role of a gadfly to the others in the same institution is not appealing, and is scarcely complimentary to preventive medicine.

It should be stressed once more that the plan which has been described has been drawn up to meet particular conditions which exist in the Hopkins environment. It certainly is not put forward as the ideal for all medical schools. It is regarded as highly experimental and will be changed if time should show that it should be modified or scrapped altogether.

Internship Appointments for 1953

BY MID-OCTOBER more than 5,800 student agreements had been processed under the matching plan for internship appointment. It is anticipated that approximately 6,000 students will participate this year, an increase of more than 300 over 1952.

Almost all hospitals approved for internship training by the American Medical Association Council on Medical Education and Hospitals are in the plan—more than 840 hospital units offering over 11,000 internships.

The matching plan is a cooperative venture in which the central office has no power but acts merely as a clearing house. The control, operation and objectives of the matching plan are clearcut and definite. The purpose of the plan is to help both students and hospitals by providing an orderly, logical method of intern appointment. The student is matched with the highest hospital on his list offering him an appointment. The hospital is matched with the applicants it most prefers and which are available to it.

The plan preserves freedom of choice for both student and hospital. It effects the best possible match in view of the expressed wishes of both parties: the student and the hospital.

Schedules of dates for 1953-1954 internship matching are:

—OCTOBER 1, 1952—JANUARY 26, 1953: Students make applications for internships to hospitals. Medical schools send hospitals letters of recommendation and credentials for their seniors.

—OCTOBER 1, 1952—DECEMBER 10, 1952: Deans may send letters of recommendation to hospitals any time after October 1, but insofar as possible, letters should be sent by December 10 so that hospitals may have this information when students are interviewed.

—FEBRUARY 2, 1953: Closing date for receipt at central office, 185 N. Wabash Ave., Chicago 1, of student and hospital confidential rank order lists.

—FEBRUARY 16, 1953: Confirmation of confidential student list to student and confirmation of confidential hospital list to hospital.

—FEBRUARY 23, 1953: Closing date for accepting (in Chicago) corrections to student or hospital confidential rank order lists.

—FEBRUARY 24, 1953: Beginning of matching operation.

—MARCH 14, 1953: Mailing of results of matching plan from Chicago to students and hospitals.

—MARCH 16, 1953: Giving of results to students by deans and announcement of results by hospitals.

—MARCH 16-25, 1953: Sending of contracts to matched students by hospitals and signing and returning of contracts by students.

The matching plan is fully approved, actively supported and completely controlled and operated by the professional associations and the students concerned with internships. It is a clearing house of professional personnel. Its complete success depends upon the sincere cooperation of the young doctors and the administrators of hospitals approved for the training of interns.

Pathology and Clinical Medicine

Better correlation between pathology and clinical medicine is achieved by spacing the teaching of pathology over two or three years.

FRANK C. GOLDING

THE STEADILY INCREASING total of medical knowledge makes it more and more difficult for the student to visualize medicine as a complex but coordinated unity rather than a collection of loosely bound subjects. The tendency toward an artificial separation of the phases of medicine is most noticeable in the inadequate correlation of the basic sciences with the clinical branches.[1]

The purpose of this paper is to suggest a change in the conventional method of teaching pathology in order to bring about a better correlation of the preclinical and clinical years, and aid students in establishing a better orientation toward the whole subject of medicine.

Medical instruction divides itself naturally and chronologically into three simple and fundamental divisions. The first is the study of the normal. The second is the study of deviations from the normal, or disease. The third is the study of the methods of preventing, curing or ameliorating disease. The following discussion will be limited to the second stage only: the diagnosis of disease.

The term diagnosis implies more than the simple recognition of a disease. It should include knowledge of its origin, development and prognosis.

The preclinical investigation of disease is included chiefly in pathology and its associated study, medical bacteriology. In these courses disease is studied through examination and experimentation. The primary aim is the discovery of truth and knowledge. Of secondary concern is the practical application of this knowledge to individual patients. Comprehensive grasp of this branch of pure science, however, is essential for an intelligent understanding of the clinical aspect of disease.

Clinical Aspect

The clinical aspect of disease is dependent upon practical application of scientific knowledge of disease combined with that intangible, the art of medicine. The judgments of clinical diagnosis are based upon less certain data than are those of pathology, and therefore are less scientific. Moreover, to the clinician the interest in the welfare of the patient

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takes precedence over the impersonal acquisition of knowledge.

The strictly scientific preclinical approach to diagnosis of disease and the practical clinical approach are of equal value and importance. Either alone would be relatively impotent and sterile. The ideal to be attained by the medical student is the appropriate combination and balance of these two attitudes. This should be combined with a sincere interest in people and the ability to be sympathetic and understanding as well as scientific.

Under our present schedule of teaching in most medical colleges, a formal survey of pathology is completed in the second year. Clinical diagnosis also is begun in this year, but the major portion is deferred to the third and fourth years. There is, therefore, a definite temporal separation between the presentation of the preclinical aspects and the major portions of the clinical aspects of disease.

The weaknesses of this arrangement are easily seen. While learning pathology, the student is unacquainted with the clinical aspects of disease. Therefore, he is not able to select from the mass of detail presented in pathology those fundamental principles which will be of practical significance in the understanding of the clinical aspect of disease.

During the clinical years, the student's familiarity with the details of pathology usually is much lessened by the interval of time and by the deluge of new clinical teaching which occupies his time and attention.

The result is that the student passes through one period in which he is confident of his knowledge of the methods and subject matter of pathology but is relatively unfamiliar with the clinical phases of medicine. This is followed by a second period in which he becomes increasingly proficient in his command of clinical medicine but gradually more uncertain of the preclinical material. Consequently, he has little opportunity to compare and correlate the two aspects of disease at a time when he has an equally adequate understanding of both.

Suggested Change

General pathology should be introduced in the second year as is done now, and at the same time the student should be introduced to the fundamentals of history taking, physical diagnosis and clinical pathology. Upon completion of these two general and introductory courses covering the fundamentals of diagnosis from both the preclinical and clinical viewpoint, however, it is recommended that the systematic review of specific disease entities be carried out from both viewpoints—basic science and clinical, in a parallel manner—thus, the study of the pathology of each specific disease group would immediately precede the clinical study of the same group.

There would be first a presentation of the pathology of a selected group of diseases by lectures and laboratory exercises directed by the department of pathology. This would be followed promptly by lectures and clinical demonstrations illustrating the clinical aspects of the same group of diseases by members of different clinical departments. Both aspects of the diagnosis of disease thus would be presented with equal emphasis and at essentially the same time. The student then could compare and correlate the two aspects of each group of diseases at a time when he is equally familiar with both, making it possible to

evaluate fairly their relative importance and appreciate the value and contribution of each to the understanding of the other.

This change would involve the spacing of pathology over two to three years instead of condensing it into approximately one-half to one year. It would necessitate a moderate advance of clinical medicine into the second year. This program would result in the student's continuing to be engaged actively in the laboratory phases of medicine throughout most of the medical curriculum and permit the basic science instructors to maintain contact with the students during the prolonged period, thus aiding in maintaining attitudes and ideals of preclinical medicine during the time of clinical studies. In addition, it would result in a clinical approach to medicine earlier in the curriculum.

As an adjunct to this better correlation between pathology and clinical medicine there would result, necessarily, a better correlation with anatomy, physiology and chemistry, since sustained knowledge of these subjects is required for the understanding of pathology.

Summary

A new timing of the teaching of pathology is suggested to run parallel with but immediately before the clinical presentation of each disease entity, thus furthering better correlation between pathology and clinical medicine.

REFERENCE

1. Johnson, Victor. "Forty-Fifth Annual Report on Medical Education in the United States and Canada," *Jour. Am. Med. Assn.*, Vol. 129, 48, September 1, 1945.

Regional Pediatric Conferences

IT HAS BEEN SAID that the teaching of pediatrics contains all the problems encountered in any other medical school subjects plus some peculiar to pediatrics. In any case, a report from the Committee on Medical Education of the American Academy of Pediatrics, which summarizes the 10 regional conferences conducted in 1950-51, contains much that is constructive and thought-provoking.

Evaluation

Evaluation by the medical school of its pediatric teaching forms the basis for continual growth and improvement. The score sheet used in the original survey on pediatric teaching by Dr. John McK. Mitchell was felt not to be appropriate as a device for yearly evaluation by the school, but the committee believes it should "stand ready to send a team to any department requesting a re-evaluation."

Methods

Methods in the field of pediatric teaching show new trends in working toward the solution of old and new problems; for example, the proper balance of didactic lecture and patient teaching, integration with other departments in the basic and clinical sciences, working out smooth-running preceptorships or decentralized program, full and appropriate use of audiovisual materials.

Preceptorship and "family assignment" programs were reported favorably. Success of programs of integration with other departments "would appear to depend much on the personality makeup of the long established department personnel."

With regard to audiovisual aids, it was felt that the AAP, through the committee, "might well serve as a central clearing station where well prepared teaching films and perhaps teaching Koda-slides could be made available." Especially appropriate topics for the use of audiovisual materials include growth and development, infrequently seen diseases and behavior reactions.

Clinical Clerkship

The perennial and difficult question of whether to place the inpatient clinical clerkship in the third or fourth year was seen by the committee to involve the following special considerations: opportunity for unhurried first-hand work with patients, amount of staff instruction available

This article is based on material from the Summary Report of the Regional Pediatric Conferences, 1950-51, sponsored by the American Academy of Pediatrics and submitted by its Committee on Medical Education. Mimeographed copies of the full summary, prepared by the committee, are available upon request from Dr. E. H. Christopherson, 610 Church St., Evanston, Ill.

to the student, maturity and clinical background of the student.

Each school, juggling all these factors, must work out a solution best suited to its own situation. "A compromise course, on trial in one of the schools, was a third-year orientation course in which students spend four afternoons a week for one month in closely supervised sessions involving reading and reporting on histories, examining the subjects of the histories and discussing the patients in detail with the instructor. One half the time is spent in closely supervised newborn and well-child work, including active participation in a well baby clinic. So far students have seemed to like this approach and the work of the few fourth-year clerks who have studied under this system has been excellent."

Content

Content in the teaching of pediatrics presents all the problems of limitation of time, inability to settle on specified standards, etc., though "some consideration might well be given to what should constitute optimum practices."

A good many practical suggestions, which might or might not fit into the schemes of other schools, came from committee members. Pediatrics is a fertile field for basic science—clinical correlation. For example, immunization procedures may be discussed in the microbiology course. The preclinical student in physical diagnosis should see infants and children as well as adults. For the future general practitioner more actual experience with newborn and premature infants than most schools now offer is essential. In most cases this involves working out closer cooperative endeavors with the department of obstetrics. (The neonatal or obstetric pediatrics teaching program at Harvard Medical School was considered especially noteworthy.) One conference reported " . . . pediatric curricula should not be standardized, but the American Academy might well lay down a broad outline of acceptable content, considering the course to total 300-350 hours."

Increased emphasis on growth and development raises the problem of how best to present this extensive and rather elusive material. Of course, as mentioned above, audiovisual materials have particular value here.

A first-year course in human biology at the University of Colorado, stressing the dynamics of growth, has been found valuable in orienting students early about the aspects of growth and development. Congenital abnormalities—how to diagnose, when to correct—claim added attention. Childhood dentistry should not be neglected. Prevention of illness and the "construction" of health, problems of childhood, handling of chronic illness and attention to the family and community social and economic implications of illness all assume importance in the pediatric curriculum.

Experience in continuity of care is as difficult to gather as it is essential. In one Canadian school the parents are recalled sometime after the patient is discharged so the student on the ward may get a follow-up history.

The responsibility of the department in the continuation education of the physician is recognized to be directed chiefly toward the general practitioner. For interns, the minimum time recommended for pediatrics service is two months.

Some attention should be paid

during the pediatric residency to specialized subjects not encountered in the hospital or clinics, such as adoption procedures and applied statistical procedures.

Financing

Financing holds the key to much of the "more insoluble" parts of planning and improving pediatric curricula, and one panel of the committee, after compiling a lengthy list of deficiencies and needed reforms, added: "All were agreed, however, that there were no problems in this category which could not be solved by additional funds." It was recognized also that "when too large a proportion of department budgets is derived from sources other than the medical schools such as grants, sound planning for the future is made difficult because of the risk that the monies from these sources may be cut off at any time."

Administrative Duty

THE MAIN RESPONSIBILITY of the administration is to provide an environment in which . . . faculty members can carry on their investigative work, their clinical responsibilities and the guidance of students and younger members of the staff with continual emphasis upon the fact that in the educational program emphasis must be placed upon learning by the student as distinguished from teaching by the faculty. Perhaps the principle duty of the administration is to produce a school that deserves public, professional and financial support.—*from the Annual Report to the President of Columbia University for the Academic Year 1950-51. Willard C. Rappleye, dean of the faculty of medicine.*

The Journal of

Medical Education

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The Conference on Preventive Medicine in Medical Schools

AS THE LONG-PLANNED Conference on Preventive Medicine in Medical Schools meets November 3-7 at Colorado Springs, medical educators will watch with a great deal of interest the deliberations of this carefully selected group.

They will recall the "Final Report of the Committee on the Teaching of Preventive Medicine and Public Health" which recommended for each medical school by July 1, 1948, a separate department of preventive medicine and public health, a full-time head of this department, an allotment of 4 per cent of the total teaching time to the department of preventive medicine and public health, some teaching in this field in each year of the medical college course, the integration of the teaching of preventive medicine and public health with the clinical teaching, and the allotment of 5 to 8 per cent of the budget of the school to the work of this department.[1] They will wonder whether, after seven years, those recommendations are still defended. More importantly, medical educators will wonder if this group will have the courage to attack some of the broader and more basic problems relating not only to the teaching of preventive medicine and public health, but also to its practice.

Is the traditional distinction between preventive medicine and clinical medicine a sound one? Aren't our best clinicians in these days our most active practitioners of preventive medicine in their day-to-day clinical work? Aren't our best local public health departments today as much concerned with planning comprehensive medical care for the citizens of their community as with carrying out their traditional six-point public health program of prevention? So much that is preventive is now carried on by clinicians and so much that is clinical is now carried on in our community-managed tuberculosis hospitals, cancer hospitals, mental disease hospitals and public health departments. Might it not be better to drop the distinction between preventive medicine and clinical medicine, both in teaching and practice, and distinguish instead between medical activities best conducted on an individual fee-for-service basis and medical activities best conducted on a community, tax-supported basis? Would it be wise to delete the preventive medicine from the title of the department and cease crediting the false assumption that it is only in the department of public health that preventive medicine is taught? Would not much be gained by teaching that public health work is that part of health and medical service which the community decides is best done by being socialized and con-

1. Harry S. Mustard, John E. Gordon, Charles E. Smith, Hugh Leavell and Jean E. Curran. "Final Report of the Committee on the Teaching of Preventive Medicine and Public Health." *The Journal of the Association of American Medical Colleges*. Vol. 20, No. 3, p. 152. May 1945.

ducted through group action and with tax support?

These are some of the problems to which the medical educators hope the Conference on Preventive Medicine in Medical Schools will address itself. The outcomes of the conference will be eagerly awaited.

MEDICAL EDUCATION for 1953

THE November issue of MEDICAL EDUCATION is the last to be published bimonthly. In January 1953 the Journal begins a monthly schedule. A glimpse into the Journal's history can be taken from the lead editorial of Volume 1, Number 1 of the quarterly *Bulletin* of the Association of American Medical Colleges.

"There has never existed a publication of any sort that was devoted wholly to furthering medical education or to serve as a medium for disseminating views on medical pedagogy. The *Bulletin* will serve these needs. Teachers in medical schools will find here a means to bring to their fellows new methods of teaching on which discussion is sought. It will also publish all news regarding medical schools, changes in faculty, new appointments, new facilities, buildings and equipment—any news in which medical school men are interested. The endeavor will be to publish all news of medical colleges so that it will no longer be necessary to scan many publications, each one of which has hitherto given a part of this news. It will be the only publication of its kind in the world—a journal devoted to medical education and pedagogy."

In 1929 the *Bulletin* became the *Journal* of the AAMC and, in 1930, began bimonthly publication ". . . because it was considered of vital importance . . ." In 1951 the Journal received its present name, the Journal of MEDICAL EDUCATION. This served to stress the central purpose of the publication, rather than the Association.

Monthly publication for MEDICAL EDUCATION emphasizes the continuing and widening interest of medical teachers in the "medical education and pedagogy" referred to by former Editor Zapffe.

The Journal recognizes this growing interest and strives to serve well in its role of communication. How well MEDICAL EDUCATION accomplishes its aim is known best by its readers. The Journal welcomes your comments, criticisms and suggestions.

In 1876 the Association of the Representatives of American Medical Colleges met ". . . to consider all matters relating to reform in medical college work." The Association today continues its aim of the advancement of medical education through its committees, annual meetings, publications and other services. As the chief publication of the Association, MEDICAL EDUCATION hopes, *with the help of its readers,* to be of increasing interest and constructive usefulness to medical educators everywhere.

NEWS DIGEST

Appointed Fund Raiser

The appointment of E. J. Ade as fund raising director of the National Fund for Medical Education was announced recently by S. Sloan Colt, fund president. Since its founding in 1949, the organization has collected $2,820,910 which has been distributed among the nation's medical schools. The new fund raising director has been active with educational, philanthropic and charitable organizations for a number of years.

Plan Government Scholarships

The Armed Forces Medical Policy Council recently gave final approval to a plan for the establishment of government scholarships in schools of medicine, dentistry, nursing and veterinary medicine. A bill will be considered by Congress when it convenes in January. The object of the program will be to supply a regular number of professional men and women for the armed services. Scholarship holders will be required to serve the same number of months in uniform as they received in school at government expense. An escape clause will permit scholars to withdraw from the plan by paying back stipends and subsidy money. Formal approval of various medical organizations is now being sought by the Department of Defense to help in congressional enactment.

Financing College Education

Several schools and banks have expressed interest in the "Pay-As-You-Go" plan for financing a college education in operation at Stevens Institute of Technology, Hoboken, N. J. The plan enables students or their parents to borrow money from certain banks in the area to pay for their year's schooling. The money is advanced to the school. The bank is reimbursed, at a low rate of interest, in 12 monthly installments. Applications are handled by the business office of the school.

Physicians in Service

A recent report of the Armed Forces Advisory Committee reveals that improvement in the use and distribution of physicians in the armed services has made it possible to make available to civilian health services some 5,000 physicians who otherwise would have been in uniform. According to the committee, the ratio of doctors to troops is well below that maintained in World War II, and men are receiving the best medical care in military history. The World War II average was five doctors for each 1,000 men. The present ratio is 3.7 per 1,000 men.

Teaching Developments

Western Reserve Experiment

First phase of a revised and experimental curriculum has been initiated this fall at Western Reserve University School of Medicine. The course is unlike that offered to medical students elsewhere and is the first time in 30 years that a major medical school in this country has undertaken rearrangement and reorientation of its entire teaching program, according to Dr. Joseph T. Wearn, dean. The coordinating body in the project is the Committee on Medical Educa-

tion, headed by Dr. Thomas Hale Ham.

The new program follows several years of curriculum study financed by grants totaling approximately $722,000 from the Commonwealth Fund. Out of the study has come a program which refocuses medical education on the student who will be responsible for the welfare of the patient. The course material offered is substantially that of the conventional curriculum. The difference lies in the reorganization of the material, the extent of correlation and emphasis.

The new teaching plan includes coordination of basic science and clinical courses throughout the medical course. Teaching will be done by interdepartmental teams called subject committees. The student will have contact with selected patients from the beginning. Each student will be furnished with a laboratory unit of his own which he will use for study, laboratory exercises and projects.

A cardinal aim of the program is to provide an atmosphere which will stimulate self-responsibility and continuing self-education. Students will have one and a half days of free time during the week to pursue their own interests in medicine, study or research. A single, final examination will be given at the end of the year. Interim tests are planned at two-month intervals, but these will be voluntary and grades will not be recorded.

The four-year course is divided in three phases. The first year's work will concern the study of normal man. In the second and third years, students will learn the principles of medicine through a study of deviations from the normal. The fourth year will emphasize comprehensive care of the patient.

Only freshmen students are involved in the new curriculum this fall. The entire new program will be in operation in 1955, with such changes or additions as experience dictates.

Education for General Practice

A report by the Commission on Education of the American Academy of General Practice shows that 54 of the 79 medical schools are sponsoring one or more programs designed to interest and prepare students for general practice. The programs include scholarships, courses, lectures, preceptorships and clinical clerkships in general practice clinics.

A survey of deans shows they do not favor the establishment of a department of general practice as a separate entity. It is the conclusion of the commission, however, that such a department is necessary to the coordination of training for general practice. Committee members recommend that the chairman of such a department should hold rank equivalent to that of any other department, and should be an actively practicing "family" doctor. It is felt that this department should not increase the total hours in the curriculum, but that slightly different emphasis and orientation, plus the addition of high caliber general practitioners to the teaching program, would result in the better preparation of the medical student for the highly important field of general practice.

Committee on Medicolegal Problems

The Committee on Medicolegal Problems of the American Medical Association recently completed a survey of the medical schools to determine what is being taught in the field of legal medicine. It is the concensus of the committee that courses are in most cases inadequate.

The group recommends that a strong department of legal medicine

be developed in each school, with a required course for all medical students. The committee further recommends detailed treatment of forensic specialties as elective courses, courses for graduate physicians and postgraduate seminars. It is felt that the staff of the department of legal medicine should participate in courses in neighboring law schools and have a direct relationship with the local office of the coroner or medical examiner.

Expand Postgraduate Education

With the appointment of Dr. Mahlon H. Delp as professor of postgraduate medicine and assistant dean of the school of medicine, the University of Kansas plans further expansion of the department of postgraduate medical education. Dr. Delp fills two new positions. He will be in charge of the entire curriculum, refresher course and circuit course planning for postgraduate education.

As assistant dean of the Kansas City campus of the medical school, Dr. Delp will be the administrative officer of the postgraduate education department and will advise the dean on matters concerning medical practice.

Fellowships, Grants, Awards

Markle Foundation

The John and Mary R. Markle Foundation will continue for the sixth year its Scholar in Medical Science Program to help young scientists become established in the field of academic medicine. Eighty-six teachers and investigators on the staffs of 49 medical schools in the United States and Canada are being aided by these grants through appropriations totaling more than $2,500,000. The number to be named in 1953 has not been determined. Twenty-one were appointed in 1952.

Each accredited medical school is invited to nominate one candidate. Grants of $30,000, at the rate of $6,000 annually, will be made to the school over a five-year period for the support of each scholar selected. All nominations should be in the hands of the foundation on or before December 1, 1952.

National Science Foundation

A second graduate fellowship program for the academic year 1953-54 has been announced by the National Science Foundation. Most fellowships will go to graduate students seeking master or doctor degrees. Stipends vary from $1,400 to $3,400. Application forms may be obtained from the National Science Foundation, Washington 25, D. C. and must be filed by January 5, 1953.

National Research Council

The division of medical sciences of the National Research Council announces postdoctoral research fellowships for 1953-54 in the medical sciences, tuberculosis and radiological research. Applications must be in on or before December 10, 1952. Application blanks may be obtained from the fellowship office, National Research Council, 2101 Constitution Ave., N. W., Washington 25, D. C.

Urological Association

The American Urological Association is offering awards of $1,000 (first prize of $500, second prize of $300 and third prize of $200) for essays on the result of some clinical or laboratory research in urology.

Competition is limited to urologists who have been in practice for not more than five years and to men in training to become urologists. Further information may be obtained from the executive secretary, William P. Didusch, 1120 N. Charles St., Baltimore. Essays must be submitted by January 15, 1953.

Lasdon Foundation

More than a score of medical schools and teaching hospitals are 1952 recipients of grants for medical research totaling $264,424 awarded by the Lasdon Foundation, a philanthropic organization founded for the support of research in the fields of medicine and health. One of the largest individual grants was awarded to the Rheumatic Fever Institute of Northwestern University for studies on the influence of dietary factors and enzyme metabolism on the development and treatment of rheumatic fever. Another large grant was given the University College, School of Medicine of Dublin, Ireland, for chemotherapeutic research in the field of tuberculosis.

Construction, Expansion

Medical School Expansion

Opening of medical schools this fall found most of them in the midst of expansion programs. In some cases, plans have been made to expand the curriculum from two to four years. Other schools are enlarging their facilities with new medical buildings and teaching hospitals.

Those two-year schools which are planning four-year schedules are MISSOURI, MISSISSIPPI, NORTH CAROLINA and WEST VIRGINIA. The first third-year class entered North Carolina this fall. The University of Missouri will spend $6 million within the year to expand its medical school and teaching hospital. The University of Mississippi will enlarge its plant to encompass a four-year program. West Virginia is still in the planning stage, but expects to build a four-year school at Morgantown.

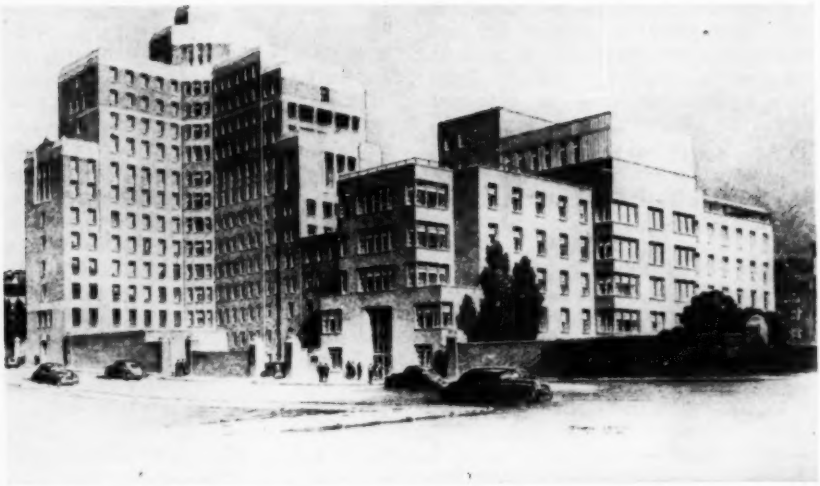
States which are considering preliminary plans to found medical schools include KENTUCKY, NEW JERSEY, CONNECTICUT, RHODE ISLAND, MASSCHUSETTS and FLORIDA. The UNIVERSITY OF MIAMI opened its new medical school this fall.

The privately-supported medical school of YESHIVA UNIVERSITY in New York City plans to open the first unit of a $25 million medical center next year. There will be a beginning class of 100, with an eventual total student body of 400.

Plans have been approved by the board of regents of the UNIVERSITY OF TEXAS for construction of a $2,750,000 basic medical science building, the first unit on Southwestern Medical School's permanent campus. Funds will be requested from the next legislature for construction of a second building, to house the clinical departments. It is hoped that the new quarters for the medical school will be ready for occupancy upon completion of the $10 million Dallas City-County Memorial Hospital, the principal teaching hospital, now being erected on an adjoining site.

Construction has started on the new 14-story $6,300,000 hospital wing of JEFFERSON MEDICAL COLLEGE hospital, Philadelphia. The pavilion, to be connected on 10 floors to the present 1,110-bed hospital buildings, will provide 300 new semi-private beds and six floors of new technical facilities. It is expected to be completed in December 1953.

Two new laboratories were added



THE NEW Psychiatric Institute of the University of Maryland will be opened this month. It is a $3 million project providing 105 beds for inpatient care and three floors for outpatient clinic.

this year to HAHNEMANN MEDICAL COLLEGE, Philadelphia. A new virus laboratory in honor of Dr. Joseph A. Langbord, medical director of the Sidney Hillman Medical Center, was dedicated May 21. The Goldman Isotope Laboratory was officially dedicated June 4.

On the UNIVERSITY OF CHICAGO campus, the new $4 million Argonne Cancer Research Hospital has been opened.

Contracts have been awarded for construction of a $521,000 cancer research unit at the INDIANA UNIVERSITY Medical Center. The new unit will house the expanding cancer research program and will be built as a wing of the James Whitcomb Riley Hospital for children. A grant of $126,000 for construction was made by the Public Health Service. Construction of a service and stores building also has been started at the center. By the middle of next year completion is expected of the $4,500,000 student union-hospital food service building.

An addition to the medical sciences building of the MAYO Clinic and Mayo Foundation at Rochester, Minn., was dedicated formally on September 26.

Construction is under way on a new four-story medical research laboratory on the campus of the UNIVERSITY OF MINNESOTA Medical School. The building will cost $675,000 and is expected to be completed next year.

The formal opening of the new psychiatric institute of the UNIVERSITY OF MARYLAND is scheduled for November 17-19. A $3 million project, it provides 105 beds for inpatient care. Three floors will be devoted to outpatient clinic space, research laboratories and teaching facilities.

Construction is now in full progress on the $600,000 addition to the UNIVERSITY OF NORTH DAKOTA medical school building. It is expected to be completed in 1954.. The three-story addition will double the size of the present medical school facilities.

Plans are being drawn for the new general teaching hospital at the UNIVERSITY OF OREGON medical school. It will cost an estimated $6 million.

Medical Alumni Hall, first unit to be completed in medical construction under way at the UNIVERSITY OF PENNSYLVANIA, was dedicated in June.

The hall is a new amphitheater to be utilized as a teaching center and assembly hall for public medical meetings. The Gates pavilion, an outpatient building with a group diagnostic clinic that can accommodate 400,000 visitors annually, is to be finished and in operation sometime this fall. A new inpatient building and a new nurses' residence are planned to follow.

The cornerstone for Alumni Hall at MEHARRY MEDICAL COLLEGE was laid this June. It is one of two buildings now under construction and was made possible by a gift of $200,000 from the Meharry Alumni Association. It will contain recreational and dining facilities. The second building is a dormitory which will house 190 students. The buildings are scheduled for occupancy next fall.

The new Medical Science Building is occupied this fall at the UNIVERSITY OF SOUTH DAKOTA although official dedication ceremonies will not be held until winter or early in the spring.

Work is under way on several projects in the $6 million expansion program at the COLLEGE OF MEDICAL EVANGELISTS. Included in the program are a new hospital, library, administration building, steam plant and laundry, school of physical medicine facilities and housing in Los Angeles, a new administration and library building and school of dentistry buildings at Loma Linda. Completion is scheduled for 1956.

The new Le Bonheur Children's Hospital in Memphis, Tenn., was opened formally at a seminar this June sponsored jointly by the staff of the hospital and the faculty of the division of pediatrics of the UNIVERSITY OF TENNESSEE College of Medicine. The new hospital and its equipment cost $2,280,000, of which half was given by the federal government under the Hill-Burton act. One-fourth was provided by the state and the remainder by Le Bon-

OFFICIALS LOOK on as ground is broken for the new $800,000 addition to the Marquette University School of Medicine, Milwaukee. Presiding here with the pick and shovel are Dr. John S. Hirschboeck (left), Marquette medical dean, and the Very Rev. Edward J. O'Donnell, S. J., university president.

ARCHITECT'S conception of the new $325,000 administration and library building expected to be completed on the Loma Linda campus of the College of Medical Evangelists early in 1953.

heur, Memphis women's philanthropic organization.

The Eye Hospital at the MEDICAL COLLEGE OF VIRGINIA Medical Center was opened last May.

MARQUETTE UNIVERSITY School of Medicine, Milwaukee, is building an $800,000 addition which will contain the Eben J. Carey memorial medical library, named in honor of Marquette's late medical dean.

A $3,600,000 outpatient clinic is in use this fall at the UNIVERSITY OF MICHIGAN Medical School. A $3 million research institute is now under construction.

The MEDICAL COLLEGE OF SOUTH CAROLINA is making plans for extensive construction, to include a teaching hospital.

A new wing to give added space for surgery and surgical supplies is being planned for the UNIVERSITY OF ROCHESTER School of Medicine. It will cost $750,000.

The cornerstone of a new $4 million medical science building was laid late this spring at WAYNE UNIVERSITY. It will open in the fall of 1953 and make possible a 50 per cent increase in enrollment.

Extensive construction is now under way at the UNIVERSITY OF VIRGINIA, including a teaching unit and dormitory for nurses, just completed, and the Wood memorial dental school building, to be finished in 1953. Funds of $250,000 are available for additions to McGuire Hall and for a hospital.

The UNIVERSITY OF TEXAS medical branch at Galveston dedicated the Gail Borden laboratory building in June. It provides classroom and library space.

Ground will be broken this fall for a $14,500,000 science building for the STATE UNIVERSITY OF NEW YORK medical school at Brooklyn, part of a planned $40 million medical center.

The July Journal of MEDICAL EDUCATION carried a picture of a new classroom and laboratory building on the UNIVERSITY OF ILLINOIS campus which will make it possible to increase enrollment substantially. The building is part of a vast medical center development which is scheduled for completion about 1970.

Contracts have been let by the UNIVERSITY OF WASHINGTON for construction of the first unit of the university teaching hospital. This unit has been designed as an ambulatory outpatient referral clinic together with additional office, laboratory and teaching facilities for the clinical departments of the school of medicine.

Plans for a 10-story addition to the

CLINICAL TEACHING facilities will be enlarged and improved in this new 300-bed pavilion of Jefferson Medical College Hospital, Philadelphia. The medical college appears on the right with the Curtis Clinic in the right background and the Thompson Annex of the hospital in the center background. The main hospital is obscured by foreground buildings.

Hutchinson Memorial Medical building at TULANE UNIVERSITY were announced recently. The planned new addition is a partial fulfillment of a long-range program to concentrate all departments of the medical school in one building. Financing of the $2,429,000 was met by use of some of Tulane's Medical School capital fund. A grant of approximately $500,000 from the National Heart Institute is being applied to cover part of the cost of the new additional space for the Hutchinson Memorial.

The new medical sciences building at the KANSAS UNIVERSITY SCHOOL OF MEDICINE was finished and furnished just in time for use this fall. The building houses the entire departments of pharmacology and experimental medicine, pathology and oncology and medical microbiology.

Additions to the university hospitals are the final phases of construction at the UNIVERSITY OF OKLAHOMA. The program has extended over a period of years and resulted in a substantial increase in enrollment.

The second unit of NEW YORK UNIVERSITY-Bellevue Medical Center, a $7,500,000 medical science building, is now under construction and scheduled to be completed in the summer of 1953.

Opening ceremonies for the $2 million biochemistry and virus laboratory on the Berkeley campus of the UNIVERSITY OF CALIFORNIA took place last month. Construction costs were furnished by the state.

Outside the United States, a ground-breaking ceremony took place in June for the new HEBREW UNIVERSITY-Hadassah Medical School in Jerusalem. It will include a 430-bed university teaching hospital, nurses' training school, an outpatient department and medical school buildings.

Meetings

AHA Convention

Establishment of an institute of hospital affairs was approved by the American Hospital Association's House of Delegates during the annual convention, September 15-18 at Philadelphia. By this action the association cleared the way for further negotiations for a $5 million grant from a foundation to erect suitable facilities and finance operation of the institute for the first five years. The proposed institute would serve as an educational and research center for the hospital field. It is hoped that it would become a headquarters for allied groups as well as a center for hospital association activities.

Dr. Edwin L. Crosby, executive director of the joint commission, was installed as association president. Ritz E. Heerman, superintendent of California Hospital, Los Angeles, was named president-elect, and Dr. Arthur C. Bachmeyer, a past president of the AAMC, was re-elected treasurer.

American College of Surgeons

Approximately 10,000 surgeons, physicians and technical experts attended the 38th annual clinical congress of the American College of Surgeons in New York City, September 21-28. Members of the faculties of the nation's medical schools played a prominent part in the program.

New president of the group is Dr. Harold L. Foss, Danville, Pa. President-elect is Dr. Fred W. Rankin, Lexington, Ky. Dr. Frank Glenn, professor of surgery at Cornell, was named first vice-president, and Dr. Dean M. Lievle, University of Iowa College of Medicine, second vice-president.

College Briefs

Baylor University

Dr. STANLEY W. OLSON, presently medical dean of the University of Illinois, will assume the deanship on the retirement of Dr. WALTER H. MOURSUND SR. on January 1. Dr. Moursund will continue as dean emeritus and director of endowment for the college.

A new full-time department of radiology has been established with Dr. VINCENT P. COLLINS as professor and chairman of the department.

The Baylor Medical Foundation has received the sum of $225,000 from an anonymous donor to be applied to the Walter H. and Freda Moursund Endowment Fund.

Dr. FREDERICK C. ELLIOTT, former dean of the University of Texas dental branch, has been appointed executive director of the Texas Medical Center.

Boston University

DR. TRYGVE GUNDERSEN has been appointed professor of ophthalmology and head of the department. He succeeds Dr. RALPH H. HOPKINS, whose appointment as professor emeritus of ophthalmology follows his retirement.

University of California

Dr. CHARLES HUGGINS, director of the Ben May Laboratory for Cancer Research and professor of surgery at the University of Chicago, was appointed visiting professor of oncology at the school of medicine for

1952. He was on the San Francisco campus last month to participate in the teaching of undergraduate medical students, deliver four lectures, and engage in the general program of the school's Cancer Research Institute.

Dr. C. HENRY KEMPE, assistant professor of pediatrics, has been granted a leave during December and January to accept an invitation by the government of India and WHO. He will go to King Institute at Madras, where he will conduct studies on serum treatment of smallpox.

Chicago Medical School

Dr. JAMES G. SHAFFER, a member of the faculty of the University of Louisville from 1948 to 1952, and previously a teacher at Johns Hopkins and Vanderbilt universities, has been appointed professor and chairman of the department of microbiology and public health.

A gift of more than $11,000 has been received from the Meyer Katz Family Foundation for equipping a complete laboratory of cardiac catheterization in the division of cardiovascular research.

University of Chicago

DR. RACHMIEL LEVINE, professorial lecturer in physiology, has been appointed to the newly established position of full-time chairman of the department of medicine and director of the educational program at Michael Reese Hospital.

University of Cincinnati

In recognition of his many contributions to the improvement of child health in France, Dr. GEORGE GUEST, professor of research pediatrics and fellow of the hospital's research foundation, has been selected to receive the French government's honorary rank of Chevalier of the Legion of Honor. Dr. Guest is a member of the executive board of the International Children's Center and the Pediatrics Societies of Paris and of France.

University of Colorado

Dr. JAMES J. WARING, professor of medicine, has been appointed professor-emeritus after serving as a member of the faculty at the school for 26 years. Dr. Waring will relinquish part of his teaching duties. He will continue to attend patients on the tuberculosis ward at Colorado General Hospital, and will maintain his active research and guidance of the Colorado Foundation for Research in Tuberculosis.

Columbia University

A society to recognize distinguished contributions to the science of surgery was recently established in honor of Dr. ALLEN O. WHIPPLE, who retired in 1946 after 25 years as Valentine Mott professor of surgery at the College of Physicians and Surgeons and director of surgical service at Presbyterian Hospital.

Howard University

Dr. ROLAND B. SCOTT, head of the department of pediatrics, returned recently from a tour of certain European pediatric teaching centers in London, Newcastle-upon-Tyne, Birmingham, Manchester, Edinburgh, Stockholm and Paris.

University of Illinois

The first laboratory at the college to be named in honor of an individual or organization is the Asthmatic Children's Aid Histochemistry Laboratory, used for studies in the field of allergy. The laboratory was first established in 1949 by funds contributed by the organization. Asthmatic Children's Aid recently contributed $10,000 to the university in support of investigative studies, bringing total contributions over the past eight years to $80,000.

Dr. JULIUS B. RICHMOND has been appointed superintendent of the In-

stitute for Juvenile Research of the Illinois Department of Public Welfare. Dr. Richmond, professor of pediatrics, will replace acting superintendent Dr. GEORGE PERKINS, who will remain with the institute as chief psychiatrist and director of the clinical program. Appointment of Dr. HEYWORTH N. SANFORD as acting head of the department of pediatrics has been announced.

Dr. F. A. HELLEBRANDT has been named head of the department of physical medicine and rehabilitation. Dr. Hellebrandt recently received a Public Health Service grant of $11,583 for research in technical education.

Recent appointments to full professorships include: Dr. RALPH W. GERARD, neurophysiology; Dr. MARVIN J. TAMARI, otolaryngology; Dr. WILLIAM H. BROWNE, clinical obstetrics and gynecology; Dr. O. E. VAN ALYES, clinical otolaryngology; Dr. EGBERT H. FELL, clinical surgery; Dr. R. KENNEDY GILCHRIST, clinical surgery.

Dr. MINAS JOANNIDES SR., clinical associate professor of surgery, died on September 8 following a lengthy illness.

Jefferson Medical College

DR. LEANDRO M. TOCANTINS has been promoted to professor of clinical and experimental medicine with a seat on the executive faculty. Dr. Tocantins is a graduate of Jefferson.

University of Kansas

Dr. E. GREY DIMOND has been named chairman of the department of medicine at the medical center. He will continue to serve as director of the cardiovascular laboratory.

College of Medical Evangelists

The fund raising committee has announced receipt of new building funds totaling more than $1,700,000. Some $165,000 is needed to reach 1952's cash objective.

A contribution of $40,000 by the Douglas Oil Company has been made to the school of tropical and preventive medicine to finance expeditions.

Dr. ERLING S. TOBIASSEN, visiting radiologist from Copenhagen, Denmark, will be associated with the school for the next few months.

University of Minnesota

Continuation courses scheduled for the medical school include: Fractures and the Surgery of Trauma, November 13-15; Conference on Pemphigus and the Bullous Dermatoses, November 21-22; Endocrinology, December 4-6.

New York Medical College

Dr. JEROME S. TOBIS has undertaken his duties as director of the department of physical medicine and rehabilitation. Part of the program is the department of rehabilitation at the new Bird S. Coler Memorial Hospital, where a 400-bed rehabilitation ward is in active operation. A school for physical therapists is to be established at the hospital under the direction of Dr. Tobis. (Dr. Tobis was announced incorrectly as having joined the staff of the New York University-Bellevue Medical Center in a previous issue of MEDICAL EDUCATION. The Journal regrets this error.)

Dr. CARL NEUBERG, of the department of biochemistry, was recently honored in France, Germany and Japan for the importance to medicine and agriculture of his recent research work.

New York University-Bellevue Medical Center

A two-week special course covering all aspects of radiological safety was conducted last month by the Post-Graduate Medical School in cooperation with the United States Atomic Energy Commission. The course was designed for industrial hygienists, health officials, safety engineers and present and potential users of radioisotopes and x-ray equipment.

University of North Dakota

A clinical clerkship for sophomore students has been planned for the month of May 14-June 8 in the hospitals of Bismarck, Minot, Williamston, Rugby, Fargo and Grand Forks.

Northwestern University

Problems and phases of cancer and cancer treatment and progress to date in the fight against cancer will be presented by 10 nationally known specialists in a series of weekly lectures during the fall quarter this year. The lectures, which began October 6 and will continue through December 10, are open to the profession.

Ohio State University

A mental hygiene clinic, serving Columbus and vicinity, is to be established later this year in the health center. Plans for the clinic have been formulated by the department of psychiatry at the university and the division of mental hygiene of the state Department of Public Welfare. The state has authorized a budget of some $70,000 for operating the clinic, with the university providing the space, maintenance, remodeling and utilities. Director of the new clinic will be Dr. RALPH M. PATTERSON, chairman of the psychiatry department.

University of Pennsylvania

Dr. NORMAN H. TOPPING has been appointed vice president of the University of Pennsylvania in charge of medical affairs, effective November 1. Dr. Topping is associate director of the National Institutes of Health at Bethesda, Md., research branch of the Public Health Service and an assistant surgeon general.

A new $20,000 electron microscope capable of magnifications more than 60,000 times has been purchased by the university for use in cancer research. The purchase was made possible by a special grant from the Public Health Service in support of the cancer research work of Dr. DALE REX COMAN, professor of experimental pathology.

A record-breaking number of 86 physicians from 29 foreign countries enrolled this fall for the 34th annual session of the Graduate School of Medicine. In addition, more than 175 student doctors are registered from the United States and territories.

University of Rochester

The resignation of Dr. GEORGE H. WHIPPLE, dean of the school of medicine since its founding in 1920, was recently announced, to be effective June 30, 1953. He plans to continue on the staff as professor of pathology.

St. Louis University

Faculty and alumni of the school of medicine honored Dr. EDWARD J. MCCORMICK, president-elect of the American Medical Association, at a reception October 1. Dr. McCormick is a 1915 graduate of the school.

University of Southern California

President FRED D. FAGG JR. has announced establishment of a cardiorespiratory laboratory in the school of medicine for the study and treatment of patients who have primarily lung disease but also a combination of heart and lung disturbance. This project has been made possible by a group of business men and doctors who have subscribed more than $100,000 to start the laboratory.

Cancer research received a $26,244 grant recently from the National Cancer Institute.

Southwestern Medical School of the University of Texas

Recent appointments include: Dr. JOHN CHAPMAN, assistant dean of graduate and postgraduate education and professor of medicine; Dr. DONALD W. SELDIN, professor of medicine and acting chairman of the department; Dr. A. J. GILL, professor of pathology and assistant dean for building plans and development; Dr.

ELIAS STRAUSS, clinical professor of preventive medicine and public health and acting chairman of the department; Dr. BEN WILSON, associate professor of surgery and acting chairman of the department; Dr. ROBERT LACKEY, professor of physiology and assistant dean for student and curricular affairs; Dr. MARION JENKINS, professor of anesthesiology and chairman of the division in the department of surgery.

Stanford University

Dr. LINCOLN E. MOSES has been appointed to a new position in the department of public health and preventive medicine, that of assistant professor of statistics. He will serve in the school of medicine and in the department of statistics in the school of humanities and science. Dr. Moses will participate in the teaching of medical students, working towards the integration of statistical reasoning and methods in all of the departments, but will devote himself primarily to consultations on evaluation and interpretation of observations in research and the design of experiments.

University of Tennessee

Dr. JOHN L. WOOD became head of the department of biochemistry on July 1. He is a consultant to the medical division of the Oak Ridge Institute of Nuclear Studies.

University of Texas, Galveston

The American Society of Tropical Medicine will meet here November 10-12 with the medical branch acting as general host.

The postgraduate division announces a pediatrics conference to be held November 17-21 in cooperation with the pediatrics department, the University of Texas Child Health Program, the Texas Medical Association, the State Department of Health, the Texas Academy of General Practice and the University of Texas Postgraduate School of Medicine.

Tulane University

A clinic for speech and hearing which will provide services to the hard of hearing and those with speech difficulties in the New Orleans area has been established in the department of otolaryngology. The clinic is directed by Dr. JAMES MCLAURIN, professor of otolaryngology.

University of Utah

Dr. JOHN F. WALDO has been appointed assistant dean of the medical school.

University of Virginia

Dr. W. PARKER ANSLOW JR. has joined the faculty as professor and chairman of the department of physiology.

Washington University

The appointment of six faculty members to their staff in Bangkok has been announced as part of this year's Washington University-Thailand medical schools assistance program. New physician appointees include JAMES HOUSEHOLDER, instructor in anesthesiology; LYLE SUTTON, associate professor of obstetrics and gynecology; PAUL D. ROSAHN, associate professor of pathology; ARTHUR S. GILSON JR., associate professor of physiology, and JOHN L. WILSON, assistant professor of surgery. Dr. ARTHUR KNUDSON has been reappointed visiting professor of biochemistry.

Yale University

ELLIOTT H. KONE has been named director of the audiovisual center, succeeding Professor SUMNER MCK. CROSBY.

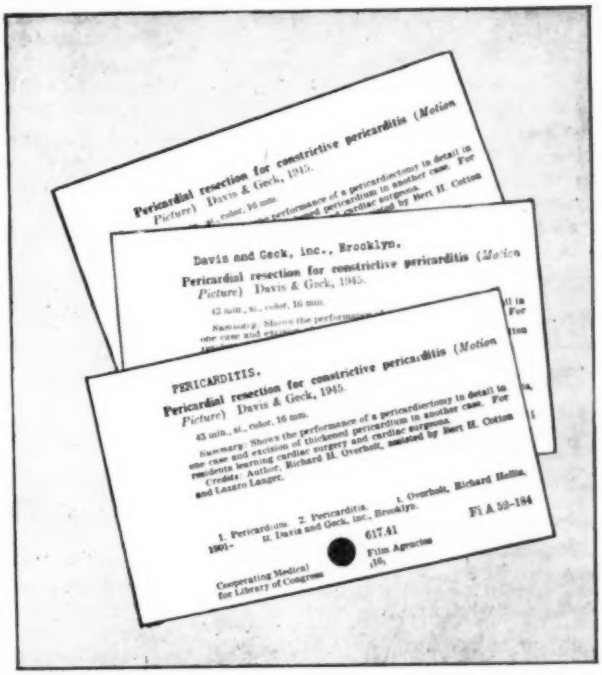
The retirement of Dr. SAMUEL C. HARVEY, professor of surgery in oncology, has been announced following service with the faculty since 1919.

Buenos Aires University Medical School

The appointment of Professor Dr. JORGE A. TAIANA as dean of the medical school has been announced.

Audiovisual News

Library of Congress Cards


Pericardial resection for constrictive pericarditis (Motion
Davis and Geck, inc., Brooklyn.
Pericardial resection for constrictive pericarditis (Motion
PERICARDITIS.
Pericardial resection for constrictive pericarditis (Motion
Picture) Davis & Geck, 1945.
45 min., si., color, 16 mm.
Summary: Shows the performance of a pericardiectomy in detail in one case and excision of thickened pericardium in another case. For residents learning cardiac surgery and cardiac surgeons.
Credits: Author, Richard H. Overholt, assisted by Bert H. Cotton and Lazaro Langer.
1. Pericarditis. 2. Pericarditis, 1905- I. Overholt, Richard Hollis. II. Davis and Geck, inc., Brooklyn.
617.41
Film Agencies
Cooperating Medical for Library of Congress

Publication of standard reference cards for medical motion pictures and filmstrips has been started by the Library of Congress. These first cards are included in their recent "List of Titles of Motion Pictures and Filmstrips for which Library of Congress Cards Are Available."

Cards for films produced by government agencies are being prepared by the U. S. Office of Education and the Library of Congress is preparing cards for which information has been supplied by the United States Copyright Office. The Cooperating Medical Film Agencies, which include the Medical Audio-Visual Institute, Committee on Medical Motion Pictures of the American Medical Association and Committee on Medical Motion Pictures of the American College of Surgeons, are preparing material on all miscellaneous medical films not included in the other coverage.

It is expected that the cards will answer a long-felt need of medical educators for a standard, reliable and inclusive list of medical motion pictures available to meet their teaching requirements.

The printed card for motion pictures and filmstrips will be standard size and will contain the name of the picture, producer, date of release, running time, size of films, notation on sound and color and, as applicable, credits, a summary of the contents, subjects covered, grade level and other information essential to a complete cataloging description of the film.

Further information on price scales, order forms and subscriptions for the cards may be obtained from the Card Division, Library of Congress, Washington 25, D. C.

AV Preview Circuits

A plan to provide medical colleges with the opportunity of previewing

some of the newer and better audiovisual materials in the field of medical education is being considered by the MAVI. To provide the service economically, self-operating circuits will be established whereby materials are shipped directly from one college to the next. All preview arrangements and scheduling will be handled through the audiovisual coordinators of the medical colleges.

Previous attempts to provide a preview service for films and filmstrips in other areas of education have proved successful when professional people have been available in each location to accept the responsibility for good previewing procedures and when they have had at their disposal repair equipment to keep programs in good physical condition. Medical college audiovisual coordinators are equipped to handle the circuits and thus render a valuable service to other faculty members by making provision for them to see and evaluate audiovisual materials with a view to purchase or future loan.

Under the MAVI plan, the medical colleges in the United States and Canada will be divided into 10 groups or circuits according to geographic accessibility, with each circuit including eight to 10 colleges. The first college on each circuit will receive a print of each newly-released program. The programs will progress to the last college on each circuit, remaining at each college for one week, including transportation time. The arrival of the programs at each college will be preceded by full printed information describing the nature of the program and the process of scheduling.

It is not expected that these materials will arrive at the colleges at appropriate times for use in the curriculum. Rather, materials will be previewed and evaluated with a view to future use. If it is possible to use a film or a filmstrip with a class of medical students, however, an additional purpose will be served.

Materials to be used will be supplied by producers. In some instances the materials will be those distributed by MAVI. In either case, materials will be preselected in terms of medical teaching and enough prints will be made available to provide one for each circuit and two spares for use in case of emergency.

Audiovisual coordinators who have contributed to the present planning are enthusiastic. If the proposal receives the same general approval from all the colleges, it will be initiated in January.

Illustration Bibliography

The Association of Medical Illustrators has compiled a useful bibliography of articles, published during the past 40 years, concerning the role of illustration in medical research, reporting and teaching. Not only do the articles listed contain invaluable source material, but the very nature of the topics presented clearly shows the evolution of a professional group devoted to the improvement of medical communication, and contributing significantly to advances in thought, method and materials.

Further information about the bibliography, which is now available, may be obtained from Evelyn Erickson, corresponding secretary, Association of Medical Illustrators, Wayne University College of Medicine, 1512 St. Antoine, Detroit 26.

Silent to Sound

A development of the principle of magnetic iron oxide stripes laid on 16 mm. film stock has been announced by the Bell and Howell Company. Silent double-perforated film exposed in all types of 16 mm. cameras now can be striped for magnetic sound in the space between perforation and film edge. Silent films, therefore, need not be expensively converted to sound film stock for magnetic iron striping.

This development can be handled

at a $35 cost by a factory modification for the Bell and Howell recorder-projector now in the field. The sound-striping service for the film is obtainable as in the past through the company at the regular charge of 3½ cents per film foot. It should be recalled that magnetic sound playback can occur at either 16 or 24-frame projection; however, recording must be done at the projection speed.

Summaries of Film Reviews

These brief notes on some medical motion pictures on cardiovascular diseases are intended to afford an offhand idea of the desirability and use of the film under review. They are drawn from the detailed evaluative reviews prepared by the Medical Audio-Visual Institute of the Association of American Medical Colleges.

Contraction of the Early Embryonic Rat Heart

16 mm., black-and-white, silent, 280 ft., 11 min.

Year of Production: 1938-41; **Country of Origin:** U.S.A.; **Author:** Charles M. Goss, M.D., department of anatomy, University of Alabama.
Distribution: Obtain from author, department of anatomy, Louisiana State University School of Medicine, New Orleans; **Loan.**

Summary: This film is composed of research cinematography of the initiation of heart contractions as observed in three to five somite rat embryos, augmented by valuable wax plate reconstructions. Presentation is simple and chronological. Problems of intellectual and visual orientation in both the specimens and models, however, will tend to limit utilization of the film to graduate students of cardiac embryology.

Audience: Research workers and graduate students in embryology; brief excerpts will be useful for medical students.

Trench Foot (Medicine in Action Series, No. 6) (Code No. MN 3726 f)

16 mm., color, sound, 380 ft., 11 min.

Year of Release: 1945; **Country of Origin:** U.S.A.; **Producer:** U.S. Navy.
Distribution: United World Films, 1445 Park Ave., New York 29; **Sale:** $48.78; Audio-Visual Training Section, Bureau of Medicine and Surgery, Navy Department, Washington 25, D. C.; **Loan.**

Summary: This illustrated lecture film, produced during World War II to alert all military personnel concerned, presents an inclusive discussion of trench foot in an elementary and sketchy fashion. Although the film is presentationally inadequate, its authentic and forceful case material of late sequelae is valuable for pertinent instruction at all levels of professional utilization.

Audience: Military surgeons, medical students, residents in surgery and cardiovascular diseases, graduate students in physiology.

Effects of Massage on the Circulation of the Blood

16 mm., black-and-white, silent, 187 ft., 7 min.

Year of Production: 1928 et sequ.; **Country of Origin:** U.S.A.; **Author:** Elliot R. Clark, M.D., et al., department of anatomy, University of Pennsylvania School of Medicine.
Distribution: Film Library of the American Medical Association, 535 N. Dearborn St., Chicago; **Loan:** Service Charge.

Summary: Using a transparent chamber in a rabbit's ear, cinemicrographic views taken at intervals following massage of the part show acceleration of the circulation and adherence of leucocytes to the vessel walls with their migration to the perivascular tissues. Adequate titles and acceptable cinemicrographic quality create easy comprehension. The film will be of interest to many audiences.

Audience: Students of physiology in college or medical school, students of physiotherapy, physical medicine and nursing.

Cardiac Arrhythmias

16 mm., color, silent, 600 ft., 24 min.

Year of Production: 1948-1949; **Country of Origin:** U.S.A.; **Sponsor:** Abbott Laboratories; **Author and Producer:** Robert H. Shuler, Ph.D., M.D., department of physiology, University of Chicago, with the assistance of Mark F. Hance, M.D., Richard Shaw, M.D., and David MacDougal, M.D.
Distribution: Medical Department, Abbott Laboratories, North Chicago, Ill., **Loan.**

Summary: The film is based upon slow-motion views of exposed canine hearts showing normal rhythm and several arrhythmias, some of them complex. The view of each rhythm is supplemented by explanatory titles, animation of the excitation wave and a diagram of a one-lead electrocardiogram. The in-

structional value of the film is greatly reduced because of the lack of information about the production and physiological mechanisms of the arrhythmias shown, the absence of simpler and more common types of arrhythmia, confusing treatment of the subject, and the inclusion of extraneous material. Almost the only merit of the film lies in the *in-situ* views which furnish striking demonstration material that might be useful as an adjunct to teaching if presented under the guidance of a specialist.

Audience: Medical students, hospital house staffs, postgraduate students; general physicians' audiences.

Heart-Lung Preparation
(Code No. PMF-5170)

16 mm., color, sound, 630 ft., 18 min.

Year of Production: 1949; **Country of Origin:** U.S.A.; **Producer:** Armed Forces Institute of Pathology, U.S. Army.
Distribution: Address loan requests with code number to: Commanding General, Attention: Surgeon, Headquarters, First to Sixth Army (according to location of user); or Armed Forces Institute of Pathology, Chief, Medical Illustration Service, 7th St.-and Independence Ave., Washington 25, D.C.

Summary: This film is an accurate demonstration of the procedure for preparation of a heart-lung dog, as used for investigations of cardiac physiology, with an explanatory narration which seeks to present the rationale of the method. On the whole the film is produced in workmanlike fashion, and can be effectively used for professional teaching despite minor faulty elements in presentation.

Audience: Graduate students in physiology and pharmacology, investigators in experimental medicine and surgery, medical students.

Control of Small Blood Vessels

16 mm., black-and-white, silent, 485 ft., 20 min.

Year of Production: 1941; **Country of Origin:** U.S.A.; **Authors:** George P. Fulton, Ph.D., and Brenton R. Lutz, Ph.D., department of biology, Boston University.
Distribution: Obtain from authors, 675 Commonwealth Ave., Boston 15; **Sale:** $28; **Loan:** $1.
Accompanying Material: Mimeographed descriptive sheets.

Summary: This film consists of edited and titled cinemicrographic abstracts of research film data on neuromotor mechanisms of the terminal blood vessels in the frog. Originally prepared for presentation before research societies, it contains valuable demonstrations of small vessel reactivity to electrical stimulation of nerves and observations of the various terminal arterial segments. Inadequacies of visual orientation and cumbersome titles limit its classroom teaching use to qualified instructors.

Audience: Medical students and graduate students in physiology, under competent guidance; research workers in vascular physiology.

Electrocardiography—
Volume-Conductor Experiment
(Code No. PMF-5166)

16 mm., color, sound, 320 ft., 9 min.

Year of Production: 1949; **Country of Origin:** U.S.A.; **Producer:** U.S. Army.
Distribution: Chief, Medical Illustration Service, Armed Forces Institute of Pathology, Washington 25, D. C.; **Loan.**

Summary: The film presents an elementary lecture on electrophysiology in relation to clinical electrocardiography, with illustrations of the Einthoven triangle concept and a demonstration of the volume-conductor experiment. Accurate within its limits, the film presents a complex subject in inadequate fashion so that its effectiveness is low and its utilization difficult.

Audience: Graduate physicians, medical students.

Oxygen Therapy in Heart Disease

16 mm. (taken on 35 mm.), black-and-white, sound, 920 ft., 26 min.

Year of Production: 1946, revised 1948; **Country of Origin:** U.S.A.; **Sponsor:** Linde Air Products Company; **Producer:** Castle Films, New York, in collaboration with the American Heart Association.
Distribution: Linde Air Products Company, 30 E. 42 St., New York 17; **Loan.**

Summary: The film discusses in detail the clinical aspects of oxygen in congestive heart failure and coronary occlusion. The assertions about the former are valid, but some of those regarding the indications and physiological effects of oxygen therapy in myocardial infarction are open to question. Most of the information is presented as a staged lecture, which renders the film unnecessary in teaching situations where lecturers are available.

Audience: Outlying medical societies, provided a member of the group is prepared to rectify some of the statements made in the film.

Book Reviews

The Principles and Methods of Physical Diagnosis

Simon S. Leopold, M.D., associate professor of clinical medicine, School of Medicine and Graduate School of Medicine, University of Pennsylvania. With a chapter on Sounds from the Thorax: Acoustic Principles, by **S. Reid Warren Jr.,** Sc.D. in E.E., professor of electrical engineering, the Moore School of Electrical Engineering, University of Pennsylvania. W. B. Saunders Company, Philadelphia & London, 1952. 390 illustrations with 19 color plates. 430 pp. with index. $7.50.

Upon first glance, by reason of a knowledge of Dr. Leopold's interest in diseases of the heart and lungs, the impression was gathered that the author had written an abbreviated but very effective revision of the classic by Norris and Landis, "Diseases of the Chest and Principles of Physical Diagnosis." Reference to the preface indicates this is the source of some of the superb illustrations that are reproduced quite properly from the original without loss of their effective qualities. The major portion of the text is original and only minor adaptations have been made from Norris and Landis.

The subject matter is arranged splendidly. The organization is by and large superior, and the author has avoided unnecessary verbiage. The chapter by Dr. Warren on acoustic principles is an especially commendable addition. The section on the musculosketal system will prove particularly helpful, but one could ask for more liberal space assignment to the neurological examination.

The author takes a very strong position on the relative place of the physical examination and x-ray in the diagnosis of intrathoracic pathology. He maintains correctly that these are supplementary and not exclusive methods of examination. The inclusion of the angiocardiograms places proper weight on this newer method of examination.

The author follows the conventional pattern in relegating history-taking to the last chapter of the text in spite of the fact that he properly assigns great weight to its usefulness in the total evaluation of the subject.

Certain errors are noted in the text which do not, however, detract materially from its basic merit. For example, three errors were noted in the figure showing the palpation of the spleen. The subject's mouth is closed, the left hand and not the left forearm is introduced behind the back to elevate the 10th, 11th and 12th ribs, and the legs are extended rather than flexed at the hips and knees. These and other deviations are unfortunate exceptions to the remarkably uniform rule of excellence in the text.

Ego Development and the Personality Disorders

David P. Ausubel, M.D., Ph.D., bureau of research and service, College of Education, University of Illinois. Grune & Stratton, New York, 1952. 564 pp. with index. $10.

Dr. Ausubel has attempted "to present a systematic and comprehensive developmental theory of psychopathology that is consonant with modern concepts of genetic psychology and with the empirical data on which they are based." Although this important area is explored in a detailed fashion, it is not particularly suitable for the use of the average medical student, whose background in psychiatry and psychology is minimal. Dr. Ausubel's presentation seems more to be leveled at the graduate student in psychology or the resident in psychiatry.

The book is divided into four parts. The first attempts a conceptual and historical orientation. The natural history of ego development is taken up next. This is followed by a study of the dynamics of ego development and, finally, the relationship between personality disorders and ego development is discussed. The author makes his points clearly and concisely. The literature is extensively covered and the material dealt with is most important for an understanding of normal and pathological psychological functioning.

The volume attempts to cover psychopathology only from the standpoint of the ego or growing self. This is most useful, but as mentioned above is geared for the advanced student. Eventually medical students will be sufficiently prepared to deal with the more technical details of human behavior, but in our era of ever-increasing specialized knowledge, that time has not yet come. Psychopathology is discussed only from the point of view of ego development and such concepts as evolution of symptoms, mechanisms of adjustment, and psycho-

sexual maturation. The importance of constitutional and situational factors is approached peripherically. Therefore, this book is recommended mainly for supplemental use in the medical curriculum.

Reaction to Injury. Pathology for Students of Disease, Volume II

Wiley D. Forbus, M.D. professor of pathology, Duke University. The Williams & Wilkins Company, Baltimore, 1952. 836 illustrations, 54 of which are in color. 1,110 pp. including index. $20.

This volume brings to completion a new type of textbook of general pathology. In it the author has presented the concepts of diseases organized as morphological and functional responses to varying stimuli. With this dynamic approach he has stressed etiology and pathogenesis. Carefully chosen historic background material traces the growth of knowledge of most major diseases. Even more valuable is the emphasis on the functional effects of the morphological lesions. This type of clinical-pathological correlation, of great importance in the student's appreciation of both pathology and medicine, often is lacking in textbooks of pathology organized along the usual anatomical patterns.

Volume I, published in 1943, dealt largely with acute and chronic inflammation as a reaction to infectious agents. In Volume II the author considers the common degenerative processes, intoxications and local circulatory disorders as submissive reactions to injury. Next, the important nutritional, metabolic, endocrine and neoplastic disease processes are similarly presented. Finally, as adaptive reactions to injury, consideration is given to wound healing, general circulatory disease and obstructions of the respiratory, alimentary and urinary tracts

The work makes no pretense of being a complete systematic presentation of all disease entities. In this atomic age, however, a more thorough discussion of irradiation injury, especially when rather unusual toxic reactions are fully considered, would be helpful. Neoplasia seems slighted.

Especially noteworthy are the chapters dealing with abnormal growth and development and the section on endocrine pathology.

This work should offer a challenge to teachers and students of pathology. With its broad scope and emphasis on the clinical effects of disease processes, it will not fit well into the medical school where the study of pathology is relegated to the second year. It should admirably fill the needs of those students and teachers who find that a continuing study of pathology, in the third and fourth years of medical school and thereafter, helps in the understanding and diagnosis of disease at the bedside.

P-Q-R-S-T

Joseph E. F. Riseman, M.D., clinical associate in medicine, Harvard Medical School, instructor in medicine, Tufts Medical School. The Macmillan Company, New York, 1952. Numerous figures and reproductions of electrocardiographic tracings. 123 pp. $4.

Published first in 1944, this is the 3rd edition of this popular guide to electrocardiographic interpretation. By the use of a minimum of reading matter and a maximum of graphic presentations, the author shows the student how to study in turn the P Wave, the P-R Internal, the QRS Complex, the RS-T Segment and the T Wave, first in the three standard leads and then in the unipolar limb and multiple precordial leads.

Pointing out that a normal electrocardiogram does not necessarily mean a normal heart and that an abnormal cardiogram is not inconsistent with normal activity and longevity in the individual case, the author warns against reading too much into the electrocardiogram and counsels that, "The electrocardiogram should be studied only in relation to the clinical picture."

Profusely illustrated with tables and diagrams and including case histories of most of the common cardiac conditions, this little volume should be of great interest and use to all medical students and practitioners of medicine.

Surgery and the Endocrine System

James D. Hardy, M.D., F.A.C.S., assistant professor of surgery, University of Tennessee Medical College. W. B. Saunders Company, Philadelphia, 1952. 43 figures. Bibliographies by chapter. 153 pp. including index. $5.

The author has clarified for general surgeons the ways in which certain advances in physiology affect surgical care. His volume is not a book of preoperative or postoperative care, nor one of complete endocrinology. It provides many important physiologic principles which are basic for many types of surgical

therapy and certain trends in the management of diseases of endocrine organs.

The book is divided into two main portions. The first six chapters deal mostly with the metabolic and physiologic aspects of surgical patients. In the last five chapters, the author summarizes briefly the important pathological, diagnostic and management aspects of those endocrine diseases of particular importance to the surgeon.

Current Therapy—1952

Howard F. Conn., M.D., editor. W. B. Saunders Company, Philadelphia, 1952. 849 pp., including index. $11.

This 1952 edition of what has come to be a medical classic lives up to the high quality established by its predecessors. A large number of well-selected leaders give brief, clear descriptions of their personal methods of treatment for specific diseases.

The book will be useful principally to experienced practitioners who would like a short review of modern treatment methods. Although the book is large, it covers so much ground that the individual articles are necessarily short. Usually a full discussion of treatment is not possible. Dosage schedules of drugs are usually given but very little is included regarding toxicity and contraindications. Examples of this occur in the treatment of bacterial pneumonia and heart failure. Penicillin is, of course, recommended in pneumonia, but no mention is made of sensitization and reactions. Digitalis is recommended in the treatment of heart failure but the question of toxicity is not covered. This deficiency is not so vital to the physician who is familiar with the use of these drugs. It is presumably this group for which the book is written. It is somewhat inadequate for instruction in therapy to the undergraduate medical student and the intern.

Elementary Medical Statistics

The principles of quantitative medicine. **Donald Mainland,** M.D., Ch.B., D.Sc., F.R.S.E., F.R.S.C., professor of medical statistics, department of preventive medicine, New York University College of Medicine. W. B. Saunders Company, Philadelphia, London, 1952. Illustrated. 327 pp. with index. $5.

The material in this elementary textbook is organized for and draws its illustrative examples from the field of medicine. The presentation is oriented consistently to inferential statistics. Descriptive techniques are introduced primarily for their use in tests of significance. The rationale behind inferential statistics is presented early in the book in a clear and concise manner. Material on general experimental design is included.

Problems at the end of each chapter give the student some practice in using the techniques and methods presented. Those who use the book, however, should be aware that its aim is to teach students the elements of statistical thinking rather than to serve as a handbook of techniques.

The Human Pelvis

Carl C. Francis, A.B., M.D., assistant professor of anatomy, Western Reserve University. The C. V. Mosby Company, St. Louis, 1952. 61 illustrations, including three in color. 210 pp. with index. $5.

This small book was produced because the author felt there was a definite need for it by resident and practicing surgeons. He has attempted to accomplish three things: reconcile the great confusion in terminology, resolve conflicts in interpretations of observations and present valuable studies not previously available to all students.

The pelvis is considered completely from all angles including sex, embryology and racial differences as well as a historical point of view. The book is well illustrated and complete, but not too bulky or given to irrelevancies. Recommended to all interested in the anatomy of the pelvic structures.

Physical Diagnosis

Harry Walker, M.D., F.A.C.P., professor of clinical medicine, Medical College of Virginia. C. V. Mosby, St. Louis, 1952. 126 illustrations. 461 pp. including index. $8.

The author has not stated his purpose in adding another volume to an already crowded field, but apparently the book is directed to students. The treatment of the material is in the traditional vein, except for following the recent trend toward having associate authors, trained in a specialty or subspecialty, who cover their respective specialized phases of the total presentation.

The text is well-written and the illustrations for the most part are not inherited, a practice which some of the standard textbooks on physical diagnosis would do well to emulate.

Principles of Organic Evolution

Arthur Ward Lindsey, professor of biological sciences at Denison University, Granville, Ohio. The C. V. Mosby Company, St. Louis, 1952. With 216 illustrations. 375 pp. with index. $5.75.

In 1929 Professor Lindsey published a "Textbook of Evolution and Genetics" which has been used by many colleges as an introduction to the subject of evolution. The present volume represents a re-examination of the same subject matter, especially in the light of advances made in the field of genetics, but the book remains, as the author intended it to be, a broad introductory survey of evolutionary principles. The conventional sequence is followed: a short history of evolution; relationship of organisms, evidences of evolution, the evolution of existing forms and the process of evolution. The concluding chapter concerns the importance of evolution in human life. The illustrations are well chosen. A few are original. The author presents his material clearly and interestingly. The book may be recommended as a textbook for first-year college courses or as a book for the layman who wishes a scientifically acceptable introduction to one of the most fascinating and important of all fields of inquiry: organic evolution.

Psychiatry and Medicine, 1st Edition

Leslie A. Osborn, M.B., B.S., (Melbourne), M.D. (Buffalo), professor of psychiatry and acting director of the Wisconsin Psychiatric Institute of the University of Wisconsin Medical School. McGraw-Hill Book Company, Inc., New York, Toronto, London, 1952. 494 pp. with index. $7.50.

Intended as a handbook for the medical student throughout a four-year course, Dr. Osborn's book presents the case for "personalized" medicine, showing how preventive psychiatry may be integrated with the practice of medicine. The book is general in scope, reconciling various psychiatric concepts into an individual point of view. Little emphasis is given to specific clinical procedures, but some excellent tabulations and summary outlines are appended. They are intended to be used by the undergraduate medical student under supervision and seem well-suited to the purpose.

Dr. Osborn's book should be a useful addition to the medical student's library, though it is difficult to see how it could be used as a text, dealing as it does with the general philosophy of personalized medicine rather than its specific applications. A popular style is employed in the writing.

A Guide to the History of Science

George Sarton, editor of Isis and Osiris, professor at Harvard University. Chronica Botanica Company, Waltham, Mass., 1952. 316 pp. with index. $7.50.

The author has compiled a useful and selective guide to the history of science, including a bibliography of literature and periodicals (French, German and English) and listings of collections, museums and institutes, meetings and societies. The guide is divided according to country, special cultural groups and particular sciences. It is prefaced with a series of lectures on the history of science, its importance and methods of teaching. This ambitious work should prove useful and inspirational to the serious student or teacher of any of the sciences.

Preparing for a Medical Education and Practice

A symposium presented at the Third Annual Premedical Conference at the State University of Iowa, November 9, 1951. Edited by **Woodrow Wilbert Morris,** Ph.D., assistant dean for medical student affairs, College of Medicine, State University of Iowa, Iowa City. 27 pp.

Liberal arts receive special attention in this report. The booklet, reprinting principal addresses at the conference, also carries articles on the roles of the biological sciences, the physical sciences, the social sciences and the classics as important parts of premedical training. Of interest to educators, administrators, and premedical advisors in particular.

The First Twenty Years

A history of the Duke University Schools of Medicine, Nursing and Health Services and Duke Hospital, 1930-50. Published by Duke University, Durham, N. C., 1952. Illustrated with photographs. 314 pp. including index and directory of former and present students.

Duke has prepared a readable history of its medical school which should prove of interest to medical educators and school administrators generally. The why and how of the establishment of the school, its special problems and its activities during World War II are explained in detail. A clearcut statement of future plans and financial needs is included. Numerous appendixes furnish information about gifts, the faculty and students of the past 20 years.

The Low Fat Diet Cook Book

Dorothy Myers Hildreth, dietitian, and **Eugene A. Hildreth,** M.D. Introduction by Francis C. Wood, M.D., chief of the medical clinic, Hospital of the University of Pennsylvania. Medical Research Press, New York, 1952. 136 pp. with index. $2.95.

This book should prove valuable to the homemaker who must prepare meals based on a diet of from 25 to 35 grams of fat a day. The basic low fat diet, including grams of fat per serving for various types of food, is explained in easy to understand language. More than 200 recipes and menus are carried.

Books and Pamphlets Received

(As space permits, those with the greatest interest to our readers will be reviewed)

Textbook of Gynecology, 4th Edition

Emil Novak, A.B., M.D., D.Sc. (Hon.), F.A.C.S., F.R.C.O.G. (Hon.), assistant professor emeritus of gynecology, The Johns Hopkins Medical School; **Edmund R. Novak,** A.B., M.D., F.A.C.S., instructor in gynecology, The Johns Hopkins Medical School. The Williams & Wilkins Company, Baltimore, 1952. Illustrated. 800 pp. with index. $9.

Problems of Aging

Transactions of the 14th Conference, September 7-8, 1951. Edited by **Nathan W. Shock,** chief, section on gerontology, National Heart Institute, National Institutes of Health and the Baltimore City Hospitals. Sponsored by the Josiah Macy Jr. Foundation, 565 Park Ave., New York 21. 138 pp. $3.

Basic Medical Physiology

W. B. Youmans, Ph. D., M.D., professor of physiology, University of Wisconsin. The Year Book Publishers, Inc., Chicago, 1952. Illustrated. 436 pp. with index. $7.50.

Physics and Medicine of the Upper Atmosphere

A study of the aeropause. Proceedings of a symposium held at San Antonio, Texas, November 6-9, 1951, sponsored by the Air University School of Aviation Medicine. Edited by **Clayton S. White,** M.D., director of research, Lovelace Foundation for Medical Education and Research, and **Otis O. Benson Jr.,** brigadier general, USAF (MC), commandant, USAF School of Aviation Medicine. The University of New Mexico Press, Albuquerque, 1952. Illustrated. 611 pp. with index. $10.

Textbook of General Surgery, 6th Edition

Warren H. Cole, M.D., F.A.C.S., professor and head of the department of surgery, University of Illinois College of Medicine, and **Robert Elman,** M.D., F.A.C.S., professor of clinical surgery, Washington University School of Medicine. Foreword by **Evarts A. Graham,** M.D., F.A.C.S. Appleton-Century-Crofts, Inc., New York, 1952. Illustrated. 1,154 pp. with index. $12.50.

Cancer Learning in the Medical School

A report of four years' investigation of how and what medical students learn about cancer. By **Howard R. Bierman,** M.D., associate clinical professor of oncology; **Leonard W. Towner Jr.,** Ph.D., research associate; **David W. Galloway,** M.A., statistician; **James N. McClelland,** Ph.D., formerly instructor (medical education). The University of California Press, Berkeley, California, 1952. 87 pp.

Zinsser's Textbook of Bacteriology, 10th Edition

David T. Smith, M.D., professor of bacteriology and associate professor of medicine; **Norman F. Conant,** M.D., professor of mycology and associate professor of bacteriology; **Joseph W. Beard,** M.D., professor of surgery in charge of experimental surgery; **Hilda Pope,** Ph. D., assistant professor of bacteriology; **D. Gordon Sharp,** Ph.D., assistant professor of biophysics in experimental surgery, and **Mary A. Posten,** M.A., instructor in bacteriology (all of Duke University School of Medicine). Appleton-Century-Crofts, Inc., New York, 1952. Illustrated. 1,012 pp. with index. $11.

Rypins' Medical Licensure Examinations, 7th Edition

Topical summaries and questions. By **Walter L. Bierring,** M.D., F.A.C.P., M.R.C.P., Edin. (Hon.), former member National Board of Medical Examiners, American Board of Internal Medicine, with the collaboration of a review panel. J. B. Lippincott Company, Philadelphia, London, Montreal, 1952. 856 pp. with index. $8.

Pharmacology in Clinical Practice

Harry Beckman, M.D., director, departments of pharmacology, Marquette University Schools of Medicine and Dentistry. W. B. Saunders Company, Philadelphia & London, 1952. Illustrated. 839 pp. with index. $12.50.

Pharmaceutical Calculations, 2nd Edition

Willis T. Bradley, A.B., A.M.; **Carroll B. Gustafson,** Ph.C., B.S., A.M., and **Mitchell J. Stoklosa,** Ph.C., B.S., A.M., of the faculty of the Massachusetts College of Pharmacy, Boston. Lea & Febiger, Philadelphia, 1952. 290 pp. $3.75.

Gynecologic and Obstetric Pathology, 3rd Edition

By **Emil Novak,** M.D., D.Sc., F.A.C.S., F.R.C.O.G., assistant professor emeritus of gynecology, The Johns Hopkins Medical School. W. B. Saunders Company, Philadelphia and London, 1952. 630 illustrations, 19 in color. 595 pp. with index. $10.

Pictorial Handbook of Fracture Treatment, 3rd Edition

Edward L. Compere, M.D., F.A.C.S., associate professor of surgery, Northwestern University Medical School; **Sam W. Banks,** M.D., F.A.C.S., associate professor of surgery, Northwestern University Medical School; revised with assistance of **Clinton L. Compere,** M.D., F.A.C.S., assistant professor of surgery, Northwestern University Medical School. The Year Book Publishers, Inc., Chicago, 1952. Illustrated. 424 pp. with index. $6.50.

Viruses as Causative Agents in Cancer

Annals of the New York Academy of Sciences, Vol. 54, Art. 6. Editor, **Roy Waldo Miner.** Illustrated. 363 pp. $4.

Physical Foundations of Radiology, 2nd Edition

Otto Glasser, professor of biophysics and head of department of biophysics, Cleveland Clinic Foundation; **Edith H. Quimby,** associate professor of radiology, College of Physicians and Surgeons, Columbia University, New York; **Laurinston S. Taylor,** chief, atomic and radiation physics division, National Bureau of Standards, Washington, D. C.; **J. L. Weatherwax,** American Oncologic Hospital and Graduate School of Medicine, University of Pennsylvania, Philadelphia. Paul B. Hoeber, Inc., New York, 1952. 581 pp. with index. $6.50.

Applied Physiology, 9th Edition

Samson Wright, M.D., F.R.C.P., John Astor professor of physiology, University of London, with the collaboration of **Montague Maizels,** M.D., F.R.C.P., professor of clinical pathology, University of London, and **John B. Jepson,** D. Phil., A.R.I.C., senior lecturer in biochemistry, Courtauld Institute of Biochemistry, Oxford University Press, London, New York & Toronto, 1952. Illustrated. 1,190 pp. with index. $9.

Viral and Rickettsial Infections of Man, 2nd Edition

Edited by **Thomas M. Rivers,** M.D., director of the hospital, The Rockefeller Institute for Medical Research. J. B. Lippincott Company, Philadelphia, London, Montreal, 1952. 90 illustrations. 719 pp. with index. $7.50.

Rheumatic Fever

A symposium held at the University of Minnesota on November 29, 30 and December 1, 1951, under the sponsorship of the Minnesota Heart Association. Edited by **Lewis Thomas,** M.D. University of Minnesota Press, Minneapolis. Illustrated. 349 pp. with index. $10.

Laboratory Technique in Biology and Medicine, 3rd edition

E. V. Cowdry, research professor of anatomy, and director, Wernse Cancer Research Laboratory, Washington University, St. Louis. The Williams and Wilkins Company, Baltimore, 1952. 382 pp. $4.

A Textbook of Histology, 9th Edition

Harvey Ernest Jordan, A.M., Ph.D., Sc. D., professor of anatomy, retired, University of Virginia. Appleton-Century-Crofts, Inc., New York, 1952. 687 pp. with index. $9.

A Method of Anatomy, 5th Edition

J. C. Boileau Grant, M.C., M.B., Ch.B., F.R.C.S. (Edin.), professor of anatomy at the University of Toronto. The Williams and Wilkins Company, Baltimore, 1952. 870 pp. with index. $7.

Methods in Medical Research, Vol. 5

A. C. Corcoran, editor-in-chief. The Year Book Publishers, Inc., Chicago, 1952. Illustrated. 394 pp. with index. $7.50.

Essentials of Dermatology, 4th Edition

Norman Tobias, M.D., associate clinical professor of dermatology, St. Louis University. J. B. Lippincott Company, Philadelphia, London, Montreal, 1952. 186 illustrations. 596 pp. with index. $6.

Connective Tissues

Transactions of the Third Conference. Edited by **Charles Ragan,** department of medicine, College of Physicians and Surgeons, Columbia University. Sponsored by the Josiah Macy, Jr. Foundation, New York, 1952. 166 pp. $3.50.

The Rockefeller Foundation. A review for 1950 and 1951 by Chester I. Barnard, president of the Foundation. Published by the Rockefeller Foundation, 49 W. 49th St., New York. 125 pp.

Comparability of Statistics of Causes of Death According to the Fifth and Sixth Revisions of the International List. World Health Organization, Geneva, 1952. May be obtained from the International Documents Service, Columbia University Press, New York 27. 59 pp. 50 cents.

Mental Prodigies. Fred Barlow. Philosophical Library, New York, 1952. 256 pp. with index. $4.75.

Biologie D'Anopheles Gambiae. Recherches en Afrique-Occidentale Francaise. M. H. Holstein, Dr. es Sc., charge de recherches de l'Office de la Recherche scientifique Outre-Mer, Paris. Organisation Mondiale de La Sante, Geneve, 1952. 176 pp. with index. $2.

Sex After Forty. S. A. Lewin, M.D., and John Gilmore, Ph.D. Medical Research Press, New York, 1952. 200 pp. with index. $3.50.

Report of State Health Programs for Five-Year Period, 1946-1950. Prepared by Josephine R. Campbell, survey statistician; Kathryn J. Connor, analytical statistician. Public Health Service Publication No. 236, Washington, 1952. Illustrated. 131 pp.

Veterans Administration Technical Bulletins, Series 10, Vol. 5. Published by Veterans Administration, Washington 25, D.C., 1952.

United States Government Grants under the Fulbright Act. University lecturing and advanced research. Conference Board of Associated Research Councils, Committee on International Exchange of Persons, Washington 25, D.C. 41 pp.

National Health Council Directory of Member Organizations. National Health Council, 1790 Broadway, New York 19, 1952. 84 pp. 50 cents.

The Cost of Sickness and the Price of Health. C—E. A. Winslow, Dr. P.H., consultant in public health administration, World Health Organization. World Health Organization, Palais Des Nations, Geneva, 1951. May be obtained from the International Documents Service, Columbia University Press, New York 27. 106 pp. with index.

38 Common Questions & Authoritative Answers. Subject: Animal Experimentation. National Society for Medical Research, 208 N. Wells St., Chicago 6. 14 pp.

How to Live with Heart Trouble. Public Affairs Pamphlet No. 184. Alton L. Blakeslee, science writer for the Associated Press. Public Affairs Committee, Inc., 1952. Illustrated. 32 pp. 25 cents.

Patterns of Interpersonal Preferences in a Nursing School Class. A sociometric study of changes in valuational bases of informal structure in a school group by Mary-Elizabeth Reichert Smith, R.N., M.S. The Catholic University of America Press, Washington, D. C., 1952. Illustrated. 22 pp. 25 cents.

The Personnel Exchange

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school, department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns must reach the Journal office not later than the 10th of the month preceding publication. The deadline for the January issue will be December 5.

All mail should be addressed to: Journal of MEDICAL EDUCATION, 185 N. Wabash Ave., Chicago 1.

Faculty Vacancies

PHYSIOLOGIST, PhD. or M.D., desired for permanent position in medical school department. Excellent opportunity for research. Teaching program is well-balanced and considered important. Middle west location. Address: V-3.

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ASSISTANT LIBRARIAN for a large, well organized library serving a midwest college of medicine and school of nursing. Excellent opportunity for reference, circulation and technical processes experience. Academic rank. Salaries above A.L.A. standard. Requires a degree in library science. Address: V-6.

Personnel Available

INTERNIST (HEMATOLOGY) - educator. Age 35, certified. Experienced in basic and clinical research, teaching, editing, administration, public relations, clinical consultation, direction of graduate students. Many publications. Capable of directing integrated or specialized research program, administering departmental responsibilities and/or hospital training program. In present situation at large mid-western college of medicine past 7½ years. Research and professional societies. Desires academic position where basic science and interests in teaching, research, organization and administration may be fulfilled. Available January 1, 1953. Highest references. Address: A-23.

PHARMACOLOGIST - BACTERIOLOGIST: Man, 31, married, PhD. Desires administrative, teaching, research or department responsibilities in medical school or school of arts and sciences. Experience in teaching pharmacology to medical, dental, pharmacy and nursing students, as well as bacteriology and public health. Experience includes industrial and consultant pharmacology and administration in both academic and industrial research and a keen interest in graduate student instruction. Available October 1 or January 1, 1953. Highest references, publications. Address: A-25.

BACTERIOLOGIST: A.B., M.S. Two years medical school teaching, four years applied pharmaceutical research experience; married, veteran, publications, 28. Desires teaching or research position in university preferably with option for study toward Ph.D. Address: A-26.

PHARMACOLOGIST: M.D., 34, assistant professor with two and one-half years teaching experience in medical school. Draft priority IV. Available January 1953 or later. Address: A-27.

CLINICAL BIOCHEMIST: Certified intern-

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PATHOLOGIST: M.D., man, 39, married. Austrian birth and education; interested in locating in U.S. Past two and one-half years *privat-dozent*, University of Innsbruck. Experienced in gross and microscopic pathology; active in research and teaching. One year tenure in U.S. working at Massachusetts General Hospital, Massachusetts Institute of Technology and Vincent Memorial Cytology Laboratory. Eligible for board examinations. References. Available two to three months after job agreement is reached. Address: A-29.

PHYSICAL THERAPIST—Educator: man, 38, M.S. and doctor of education. Experienced in teaching. Specialty—preparation of teachers of physical therapy. Seeks opportunity to develop curriculum and opportunity for research. Can act as educational consultant to other medical departments take charge of inservice training programs. Kappa Delta Pi and professional societies. Excellent references. Available on short notice. Address: A-30.

Ph. D. in all basic sciences: man. Assistant professor at present. Training in all basic sciences. Teaching experience in anatomy (gross and miscroscopic), physiology and pathology (medical and clinical). Minimum salary $7,000. Address: A-31.

SURGEON: Interested in teaching, and research; Certified by the American Board of Surgery; Fellow, American College of Surgeons; two years teaching experience in clinical surgery; married; category 4 service U.S. Navy. Full time work preferred. Address: A-32.

PHYSIOLOGIST—Ph.D., age 36. Active researcher and teacher at university level, desires teaching-research position in medical school. Fine scholastic record, publications, National Research Council fellow, five years' teaching experience human, general physiology. Position with permanence desired, but will consider appointment permitting working for M.D. degree. Available after June 1953. Address: A-22.

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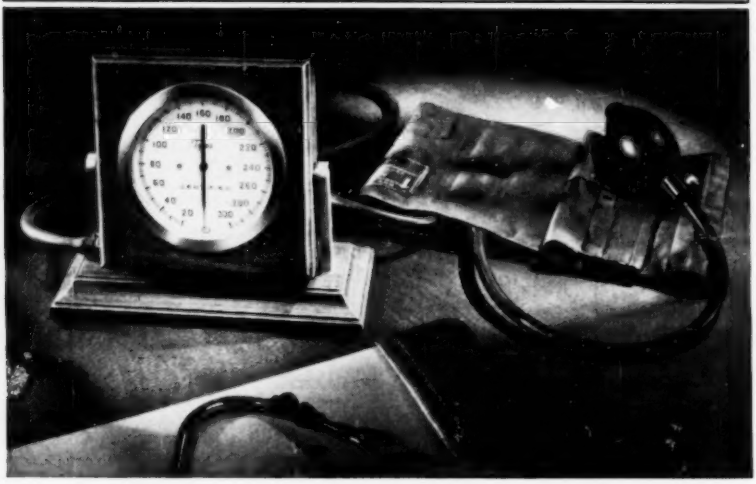

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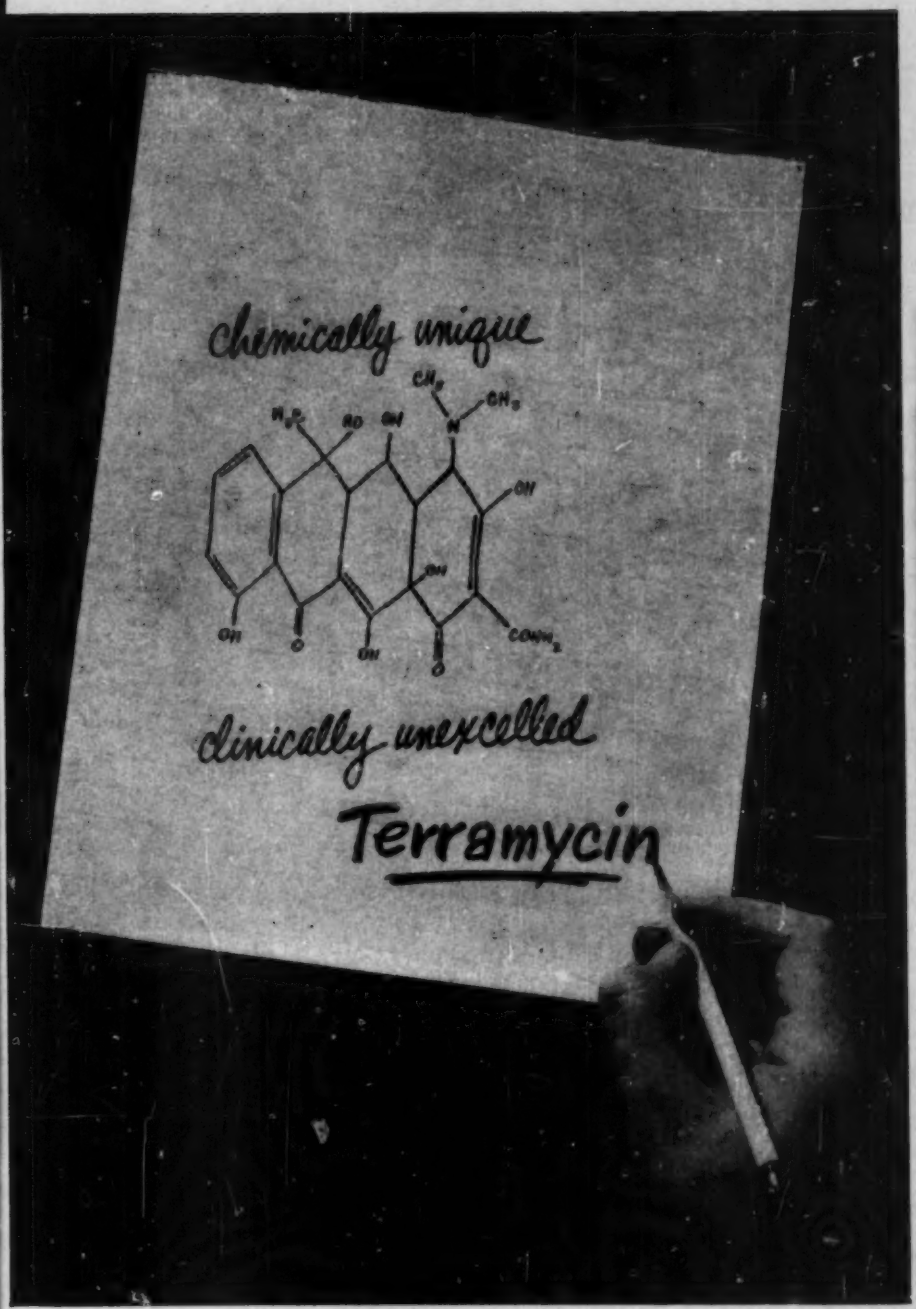

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